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ÖLÇÜM RAPORU
MEASUREMENT REPORT

TL-806
19-TST-0039- 41/R1
03-19

Müşterinin Adı Adresi
Customer name/address

: HERA EĞLENCE VE MİMARİ AYDINLATMA SİSTEMLERİ A.Ş.
Güllübağlar Mah. Kahramanlar Cad. No:3-1 34906 PENDİK-
İSTANBUL/TÜRKİYE

İstek Numarası
Order No

: 19-TST-0039

Numunenin Adı ve Tarifi
Name and identity of test item

: SWORD RGB RADIUS DIFFUSED(150cm)
Sword RGB Radius diffused(150cm)

Numunenin kabul tarihi
The date of receipt of test item

: 26.02.2019

Açıklamalar
Remarks

: DGC'ye , IES LM-79-08 standardı uyarınca fotometrik ölçümler yapılmıştır.
Photometric measurement has been applied to EUT according to IESNA LM-79-08

Deneyin Yapıldığı Tarih
Date of Test

: 27.02.2019-07.03.2019

Raporun Sayfa Sayısı
Number of Pages of the Report

:57

Deney laboratuvarı olarak faaliyet gösteren TÜV AUSTRIA TURK, International Accreditation Service, Inc. (IAS) TL-806 ile TS EN ISO/IEC 17025 Nisan 2012 standardına göre akredite edilmiştir.
TÜV AUSTRIA TURK is accredited by International Accreditation Service, Inc. (IAS) under registration number TL-806 for TS EN ISO/IEC 17025 April 2012 as a test laboratory.

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Deney ve /veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metotları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.
The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.

Bu rapor, laboratuvara gönderilen numunelere uygulanan deney/deneyler sonucu hazırlanmıştır. Müşteriye ait diğer numuneleri kapsamaz.
This report was prepared according to test results of specimens sent to laboratory. It doesn't contain other specimens belonging to customer.



Deney Sorumlusu
Person in charge of test


Saltuk Buğra GÜNEŞ

Onaylayan
Approval


Gürhan CANSIZ

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1.1

DGC, Çevre Şartları ve Sembollerin Tanımları (Description of the EUT, Environmental Conditions and Symbol Definitions)

Markası / Brand

: HERA

Modeli / Model

: RGBW Radius Diffused (150cm)

Seri Numarası / Serial Number

: Test Numunesi
Test Sample

Beyan Gücü / Rated Power

: 35 W

Beyan Gerilimi / Rated Voltage

: 48 VDC

Sembollerin Tanımı / Definitions of Symbols

DGC= Deneyden Geçen Cihaz
EUT=Equipment Under Test



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1.2 Deney Standartları (Test Standards)

Deneyleyler aşağıdaki standartlara göre yapılmıştır (The tests were performed according to following standards):

Standart / Standard

■ IESNA LM-79-08 Electrical and Photometric Measurements of Solid-State Lighting Products

1.3 Deney Ekipmanları (Test Equipments)

Kayıt No. (ID – No.)	Tip (Type)	Kalibrasyon Tarihi (Calibration Date)	Sonraki Kalibrasyon Tarihi (Next Calibration Date)	Kontrol (Check Point)
LAB-011	Goniophotometer	09.01.2019	09.01.2020	<input checked="" type="checkbox"/>
LAB-015	AC Power Supply	05.06.2018	05.06.2019	<input checked="" type="checkbox"/>
LAB-027	Powermeter	09.01.2019	09.01.2020	<input checked="" type="checkbox"/>
LAB-023	Standart Lamp	09.01.2019	09.01.2020	<input checked="" type="checkbox"/>
LAB-012	Integrating sphere	28.05.2018	28.05.2019	<input checked="" type="checkbox"/>

1.3 Komponent listesi (Component list)

Komponent (Components)	Üretici (Manufacturer)	Model (Model)	Standart no. (Standart No.)	Sertifika no. (Certificate No.)
LED	Cree Inc	CLQ6A	Led-RGBW IF=20Ma VR=5V $\phi V = \text{Initial Data} \times 0,7$	-
PCB	C13090_R1.0	1.6mm FR44 Layers, 35+35+35+35um Cu	-	-

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2.1 Kırmızı Renk Deney Sonuçları (Test Results of the Red Color)

Elektriksel Ölçümler

(Electrical Measurements)

Ölçülen Güç (W) (Input Power)	12,8
Ölçülen Gerilim (V) (Input Voltage)	48 VDC
Ölçülen Akım (A) (Input Current)	0,2666
Güç Faktörü (PF) (Power Factor)	-
Ölçülen Frekans (Hz) (Input Frequency)	-
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25,1 °C 48% Rh
Stabilizasyon Süresi (Stabilization Time)	60 dk ±5dk

Fotometrik Ölçüm Sonuçları

(Photometric Measurement Results)

Toplam Işık Akısı (Total Luminous Flux) (lm)	85,713
Maksimum Işık Şiddeti (Max. Light Intensity) (cd)	15,66
Armatür Etkinliği (Luminaire Efficacy) (lm/W)	6,70



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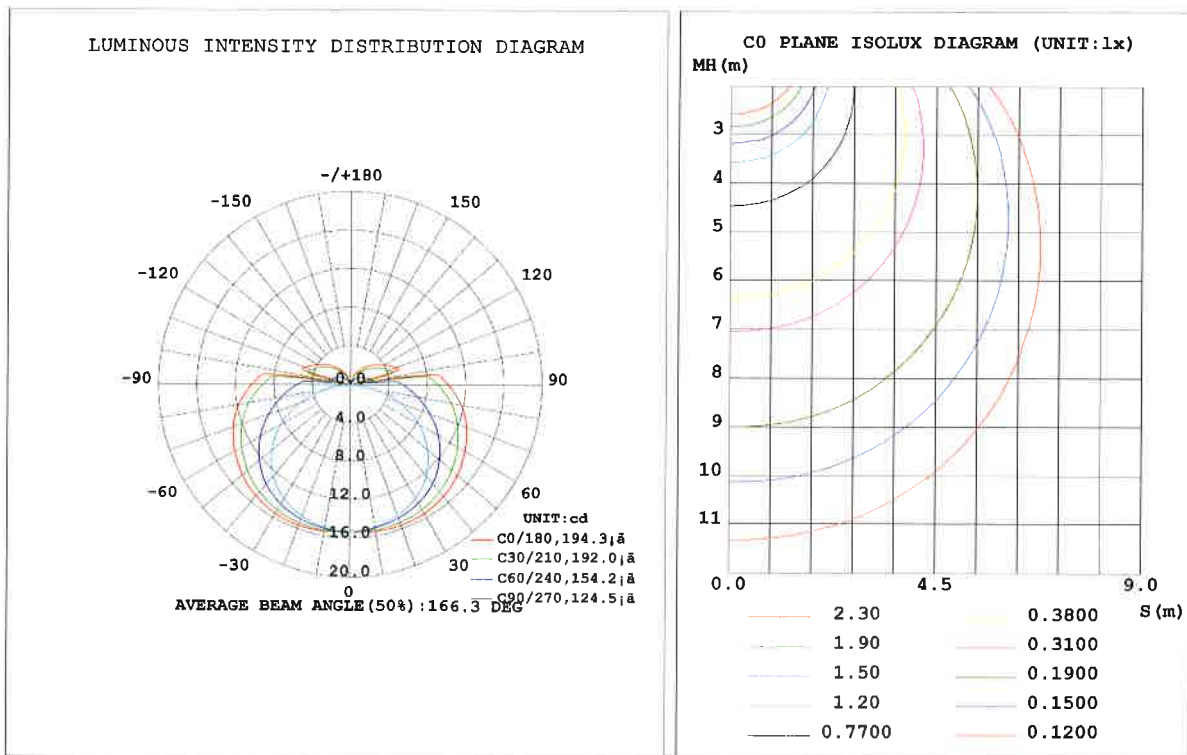
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2.1 Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)



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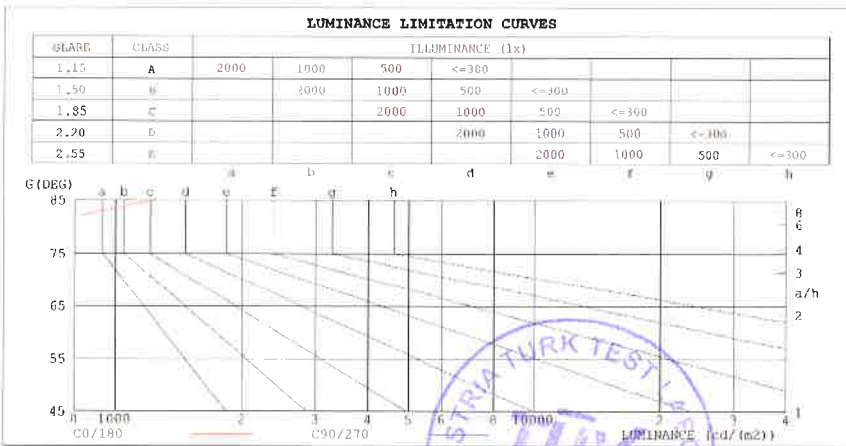
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2.1 Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)

**ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES**

ZONAL FLUX DIAGRAM:

y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	llum, lamp
5	15.45	15.39	15.33	15.39	15.45	15.36	15.28	15.36	0- 5	0.3677	0.3677	0.43, 0.43
10	15.65	15.37	15.18	15.37	15.55	15.31	15.10	15.31	5- 10	1.099	1.467	1.71, 1.71
15	15.63	15.31	14.96	15.31	15.63	15.23	14.84	15.23	10- 15	1.816	3.283	3.83, 3.83
20	15.66	15.20	14.65	15.20	15.66	15.10	14.52	15.10	15- 20	2.506	5.788	6.75, 6.75
25	15.63	15.03	14.27	15.03	15.63	14.91	14.13	14.91	20- 25	3.155	8.943	10.4, 10.4
30	15.55	14.81	13.80	14.81	15.55	14.67	13.66	14.67	25- 30	3.752	12.70	14.8, 14.8
35	15.41	14.53	13.21	14.53	15.41	14.39	13.08	14.39	30- 35	4.281	16.98	19.8, 19.8
40	15.21	14.18	12.49	14.18	15.21	14.04	12.35	14.04	35- 40	4.731	21.71	25.3, 25.3
45	14.95	13.77	11.64	13.77	14.95	13.62	11.49	13.62	40- 45	5.087	26.79	31.3, 31.3
50	14.63	13.29	10.67	13.29	14.63	13.14	10.52	13.14	45- 50	5.341	32.13	37.5, 37.5
55	14.26	12.74	9.579	12.74	14.26	12.59	9.417	12.59	50- 55	5.486	37.62	43.9, 43.9
60	13.84	12.13	8.362	12.13	13.84	11.97	8.193	11.97	55- 60	5.523	43.14	50.3, 50.3
65	13.41	11.47	7.024	11.47	13.41	11.31	6.864	11.31	60- 65	5.454	48.60	56.7, 56.7
70	12.93	10.78	5.624	10.78	12.93	10.64	5.519	10.64	65- 70	5.292	53.89	62.9, 62.9
75	12.40	10.09	4.196	10.09	12.40	9.943	4.035	9.943	70- 75	5.053	58.94	68.8, 68.8
80	11.76	9.348	2.743	9.348	11.76	9.213	2.582	9.213	75- 80	4.721	63.66	74.3, 74.3
85	11.03	8.542	1.309	8.542	11.03	8.415	1.214	8.415	80- 85	4.324	67.99	79.3, 79.3
90	10.21	7.702	0.0620	7.702	10.21	7.585	0.0254	7.585	85- 90	3.885	71.87	83.9, 83.9
95	9.461	6.258	0.0444	6.258	9.461	6.273	0.0208	6.273	90- 95	3.398	75.27	87.8, 87.8
100	0.0324	1.938	0.0453	1.938	0.0324	1.450	0.0225	1.450	95-100	1.610	76.88	89.7, 89.7
105	2.848	3.597	0.0423	3.597	2.848	3.556	0.0198	3.556	100-105	0.8312	77.71	90.7, 90.7
110	5.048	3.280	0.0400	3.280	5.048	3.297	0.0198	3.297	105-110	1.558	79.27	92.5, 92.5
115	4.510	2.922	0.0376	2.922	4.510	2.935	0.0201	2.935	110-115	1.397	80.67	94.1, 94.1
120	3.999	2.585	0.0346	2.585	3.999	2.563	0.0219	2.563	115-120	1.191	81.86	95.5, 95.5
125	3.521	2.254	0.0335	2.254	3.521	2.218	0.0201	2.218	120-125	0.9976	82.86	96.7, 96.7
130	3.070	1.933	0.0287	1.933	3.070	1.898	0.0204	1.898	125-130	0.8159	83.67	97.6, 97.6
135	2.634	1.623	0.0204	1.623	2.634	1.607	0.0189	1.607	130-135	0.6414	84.31	98.4, 98.4
140	2.216	1.349	0.0133	1.349	2.216	1.325	0.0166	1.325	135-140	0.4944	84.81	98.9, 98.9
145	1.821	1.082	0.0060	1.082	1.821	1.069	0.0095	1.069	140-145	0.3658	85.17	99.4, 99.4
150	1.454	0.4735	0.0006	0.4735	1.454	0.5788	0.0044	0.5788	145-150	0.2496	85.42	99.7, 99.7
155	1.127	0.1651	0	0.1651	1.127	0.1053	0	0.1053	150-155	0.1553	85.58	99.8, 99.8
160	0.0046	0.4319	0	0.4319	0.0046	0.3970	0	0.3970	155-160	0.0692	85.65	99.9, 99.9
165	0.4935	0.2409	0	0.2409	0.4935	0.2088	0	0.2088	160-165	0.0337	85.68	100, 100
170	0.2983	0.1354	0	0.1354	0.2983	0.1262	0	0.1262	165-170	0.0225	85.70	100, 100
175	0.1449	0.0815	0.0014	0.0815	0.1449	0.0812	0	0.0812	170-175	0.0075	85.71	100, 100
180	0	0	0.0074	0	0	0.0076	0.0068	0.0076	175-180	0.0013	85.71	100, 100



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1265	150
80	677	158
75	479	162
70	378	164
65	317	166
60	277	167
55	249	167
50	226	166
45	211	165

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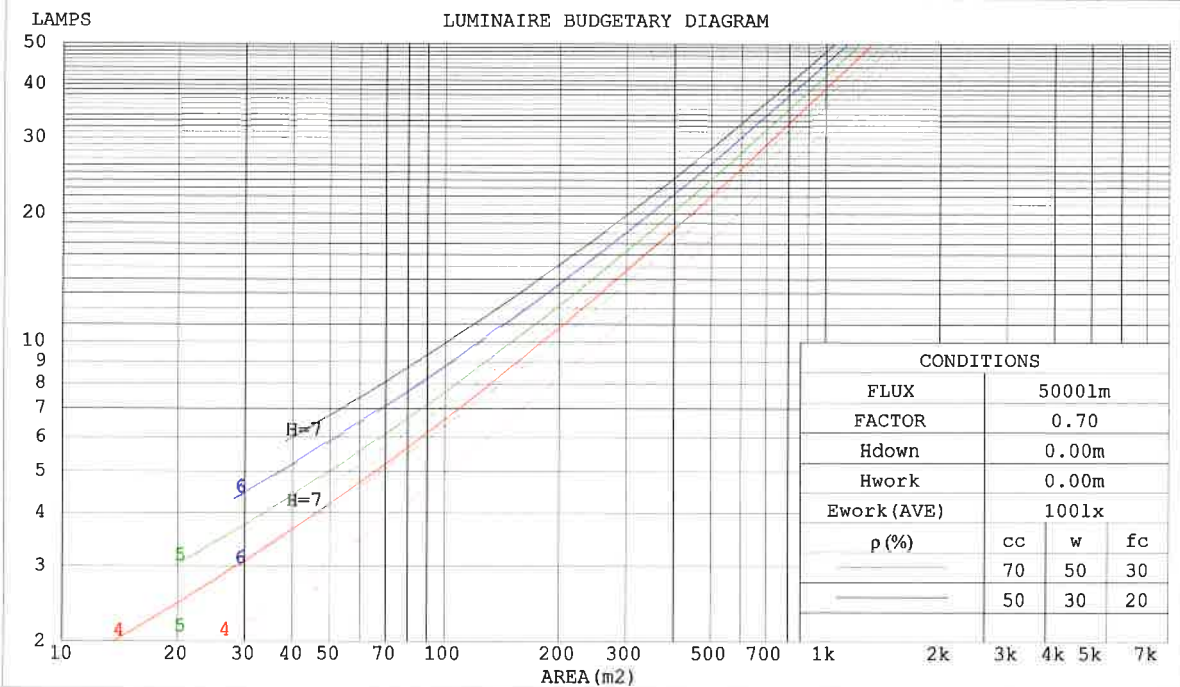
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2.1 Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization (CU)									
0.0	1.15	1.15	1.15	1.11	1.11	1.11	1.02	1.02	1.02	.94	.94	.94	.87	.87	.87	.84
1.0	.94	.88	.83	.90	.85	.80	.83	.79	.75	.76	.73	.69	.70	.67	.65	.61
2.0	.80	.71	.64	.76	.69	.62	.70	.64	.58	.64	.59	.55	.59	.55	.51	.48
3.0	.69	.59	.52	.66	.57	.50	.60	.53	.47	.55	.49	.44	.51	.46	.41	.38
4.0	.60	.50	.42	.58	.48	.41	.53	.45	.39	.49	.42	.37	.44	.39	.34	.32
5.0	.53	.43	.36	.51	.42	.35	.47	.39	.33	.43	.36	.31	.40	.34	.29	.27
6.0	.47	.38	.31	.45	.36	.30	.42	.34	.28	.39	.32	.27	.36	.30	.25	.23
7.0	.43	.33	.27	.41	.32	.26	.38	.30	.25	.35	.28	.23	.32	.27	.22	.20
8.0	.39	.30	.23	.37	.29	.23	.35	.27	.22	.32	.25	.21	.30	.24	.20	.17
9.0	.35	.27	.21	.34	.26	.20	.32	.24	.19	.29	.23	.18	.27	.22	.17	.15
10.0	.32	.24	.19	.31	.23	.18	.29	.22	.17	.27	.21	.17	.25	.20	.16	.14



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2.1 Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)

WEC AND CCEC

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.420	.239	.076	.408	.233	.074	.385	.221	.071	.364	.210	.067	.345	.200	.064	
2.0	.357	.196	.060	.346	.190	.059	.325	.181	.056	.306	.172	.054	.288	.163	.051	
3.0	.313	.167	.050	.303	.162	.049	.284	.154	.047	.267	.146	.045	.251	.139	.043	
4.0	.280	.145	.043	.271	.142	.042	.254	.134	.040	.238	.128	.039	.223	.121	.037	
5.0	.253	.129	.037	.244	.125	.037	.229	.119	.035	.215	.113	.034	.201	.108	.032	
6.0	.230	.115	.033	.223	.113	.032	.209	.107	.031	.196	.102	.030	.184	.097	.029	
7.0	.212	.105	.030	.205	.102	.029	.192	.097	.028	.180	.092	.027	.169	.088	.026	
8.0	.196	.096	.027	.189	.093	.026	.178	.089	.025	.167	.084	.024	.156	.080	.023	
9.0	.182	.088	.025	.176	.086	.024	.165	.082	.023	.155	.078	.022	.146	.074	.021	
10.0	.170	.081	.023	.165	.080	.022	.155	.076	.021	.145	.072	.021	.136	.069	.020	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.314	.314	.314	.268	.268	.268	.183	.183	.183	.105	.105	.105	.034	.034	.034	
1.0	.312	.279	.250	.267	.240	.215	.183	.165	.149	.105	.095	.086	.034	.031	.028	
2.0	.306	.256	.215	.262	.221	.186	.179	.153	.130	.103	.089	.076	.033	.029	.025	
3.0	.298	.240	.194	.256	.207	.168	.176	.144	.118	.101	.084	.069	.033	.027	.023	
4.0	.290	.228	.180	.249	.197	.156	.171	.137	.110	.099	.080	.065	.032	.026	.021	
5.0	.283	.218	.170	.243	.189	.148	.167	.132	.105	.097	.077	.062	.031	.025	.020	
6.0	.275	.210	.164	.236	.182	.143	.163	.127	.101	.095	.075	.060	.031	.024	.020	
7.0	.267	.204	.159	.230	.176	.138	.159	.124	.098	.092	.073	.058	.030	.024	.019	
8.0	.261	.198	.155	.224	.172	.135	.155	.121	.096	.090	.071	.057	.029	.023	.019	
9.0	.254	.193	.152	.219	.168	.133	.152	.118	.094	.088	.070	.056	.029	.023	.019	
10.0	.248	.189	.150	.214	.164	.131	.148	.115	.093	.086	.068	.055	.028	.022	.018	



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2.1 Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)

Uncorrected UGR Table

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	7.5	9.0	8.0	9.5	10.0	5.5	7.0	6.0	7.5	8.0
3H	10.5	11.8	11.0	12.4	12.9	7.3	8.7	7.8	9.2	9.8
4H	12.2	13.4	12.7	14.0	14.6	8.1	9.4	8.6	9.9	10.5
6H	14.0	15.2	14.5	15.7	16.4	8.7	9.9	9.3	10.5	11.1
8H	15.0	16.1	15.5	16.7	17.3	8.9	10.1	9.5	10.7	11.3
12H	16.1	17.2	16.7	17.8	18.5	9.1	10.2	9.7	10.8	11.5
4H 2H	8.3	9.5	8.8	10.1	10.7	6.9	8.2	7.4	8.7	9.3
3H	11.4	12.6	12.0	13.2	13.8	9.0	10.1	9.6	10.7	11.3
4H	13.3	14.3	13.9	14.9	15.6	10.0	11.0	10.6	11.6	12.3
6H	15.3	16.2	15.9	16.9	17.6	10.8	11.8	11.5	12.4	13.1
8H	16.4	17.3	17.1	17.9	18.7	11.1	12.0	11.8	12.7	13.4
12H	17.7	18.5	18.3	19.2	19.9	11.4	12.2	12.0	12.9	13.6
8H 4H	13.7	14.6	14.4	15.3	16.0	11.2	12.1	11.9	12.8	13.5
6H	16.1	16.8	16.7	17.5	18.3	12.6	13.3	13.2	14.0	14.7
8H	17.4	18.1	18.1	18.8	19.6	13.1	13.8	13.8	14.5	15.3
12H	18.9	19.5	19.6	20.2	21.0	13.6	14.2	14.3	14.9	15.7
12H 4H	13.8	14.6	14.4	15.3	16.0	11.6	12.5	12.3	13.1	13.9
6H	16.2	16.9	16.9	17.6	18.4	13.2	13.9	13.9	14.6	15.4
8H	17.7	18.3	18.4	19.0	19.8	14.0	14.6	14.7	15.3	16.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 85.71 lm Total Lamp Luminous Flux. (8log(F/F0) = -8.5)



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2.1**Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)****UTILIZATION FACTORS TABLE**

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	46	33	26	45	33	26	43	32	25	18
0.80	55	42	33	54	41	33	51	40	32	24
1.00	63	49	40	61	48	40	57	49	39	30
1.25	70	56	47	67	55	47	63	53	45	35
1.50	75	62	53	72	60	52	67	57	50	39
2.00	82	71	62	79	69	60	74	65	58	46
2.50	87	76	68	84	74	66	78	69	63	50
3.00	91	81	73	87	78	71	81	74	67	54
4.00	96	87	80	92	84	78	85	79	73	59
5.00	99	92	85	95	88	83	88	82	78	63
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			



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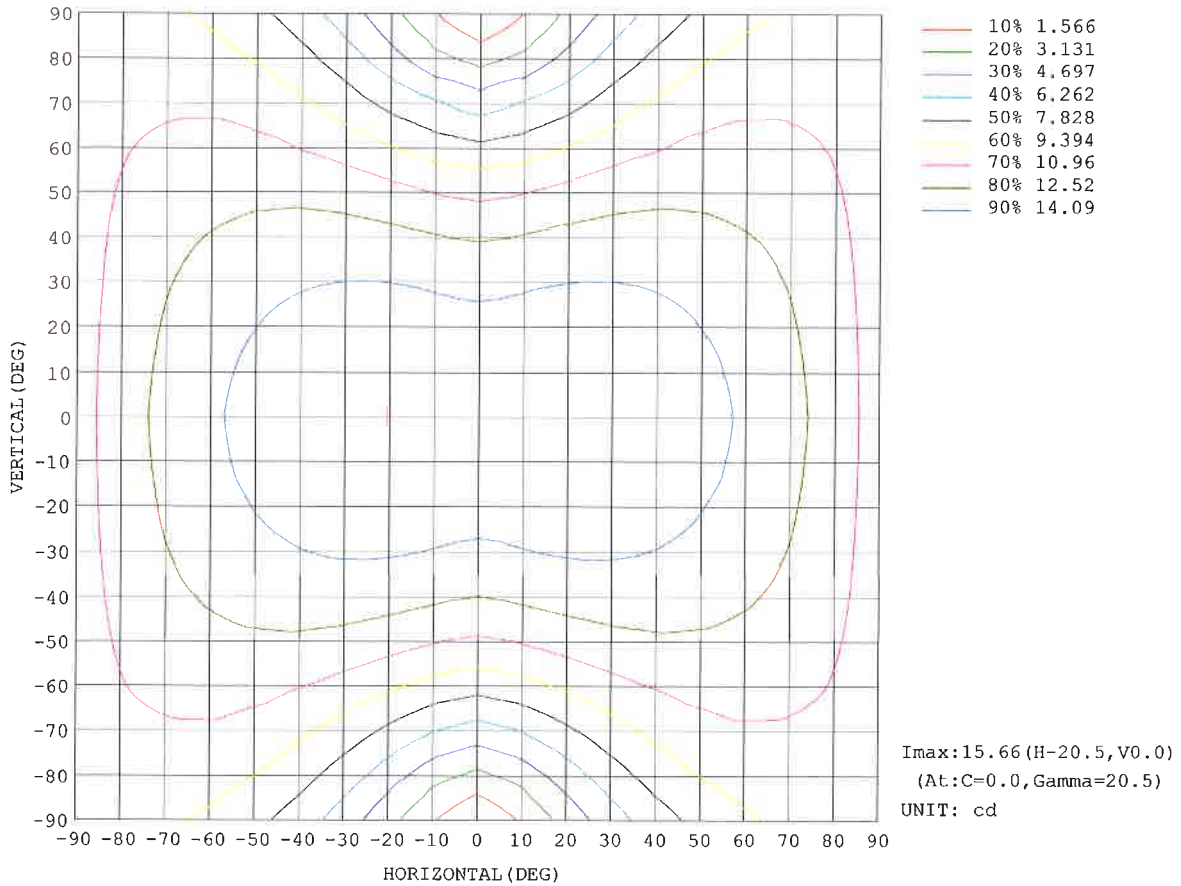
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2.1

Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)

ISOCANDELA DIAGRAM



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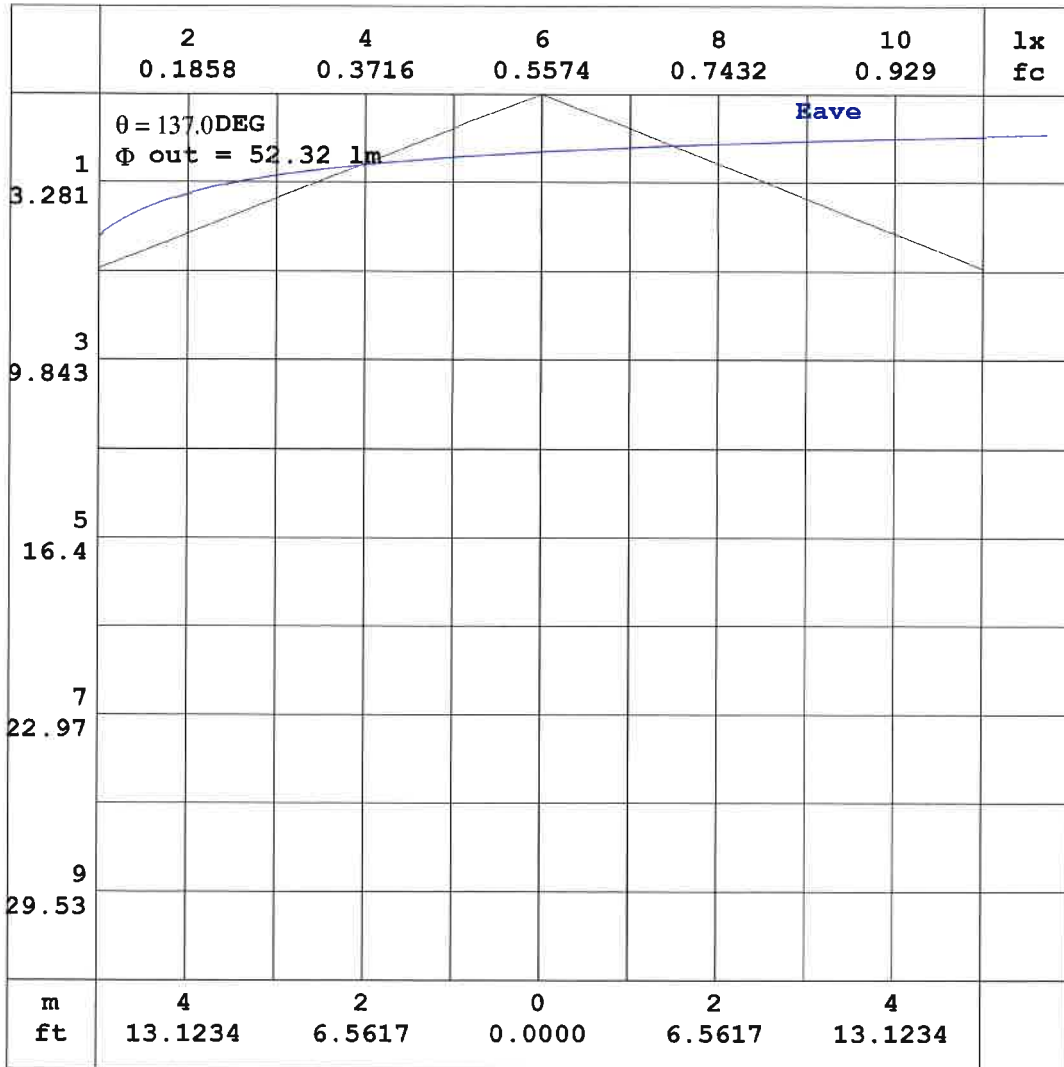
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2.1 Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)**AAI CURVES**

Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.



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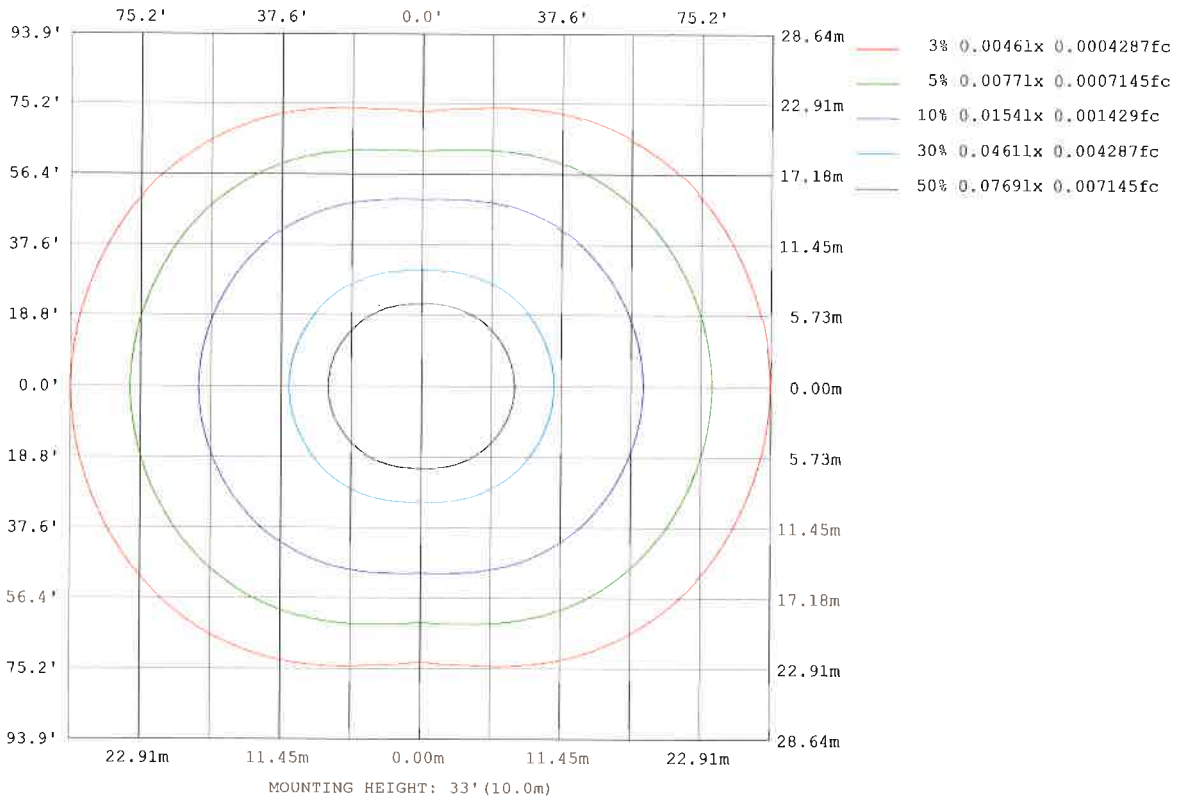
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2.1

Kırmızı renk Fotometrik Deneş Sonuřları (Photometric Test Results of the Red color)

ISOLUX DIAGRAM



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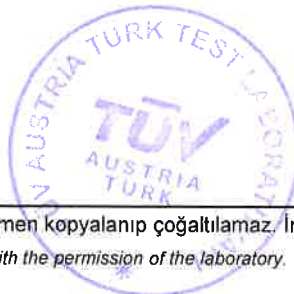
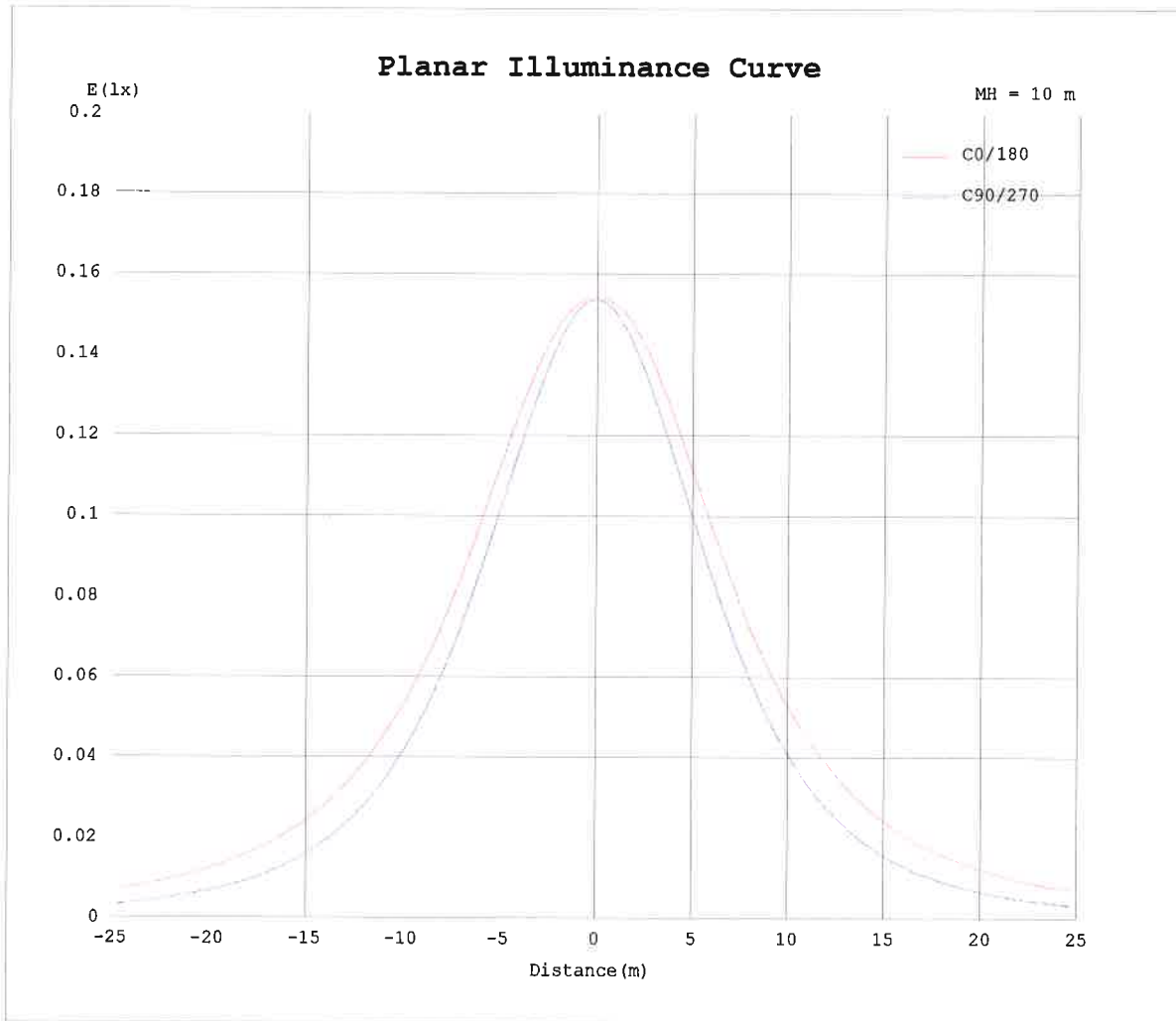
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2.1

Kırmızı renk Fotometrik Deney Sonuçları (Photometric Test Results of the Red color)



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2.2 Kırmızı Renk Spektrokolorimetrik Deney Sonuçları (spectrocolorimetric Test Results of the Red color)**Elektriksel Ölçümler**

(Electrical Measurements)

Ölçülen Güç (W) (Input Power)	12,8
Ölçülen Gerilim (V) (Input Voltage)	48 VDC
Ölçülen Akım (A) (Input Current)	0,2665
Güç Faktörü (PF) (Power Factor)	-
Ölçülen Frekans (Hz) (Input Frequency)	-
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25 °C 48% Rh
Stabilizasyon Süresi (Stabilization Time)	60 dk ±5dk

Spektrokolorimetrik Ölçüm Sonuçları

(Spectrocolorimetric Measurement Results)

Chrom x	0,6815
Chrom y	0,3082
Duv	0,00
Chrom u'	0,5109
Chrom v'	0,5199
Peak	628 nm
Dominant	620 nm
CCT	0 K
Nominal CCT	-
Ra(CRI)	0
R9	0
S/P Ratio	0,1
Preburning time	1 hr
Test Configuration	4π



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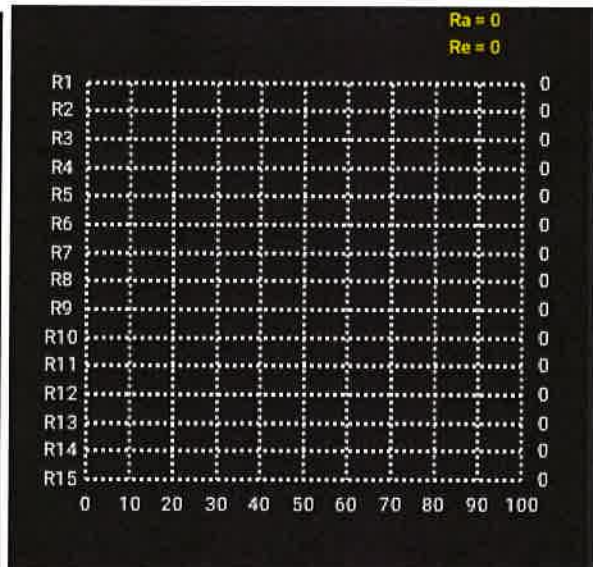
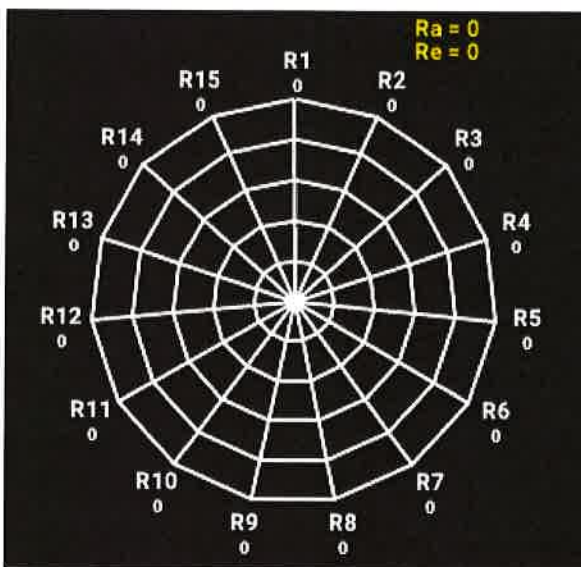
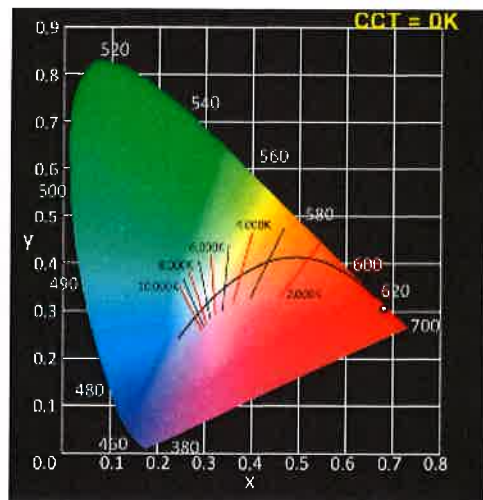
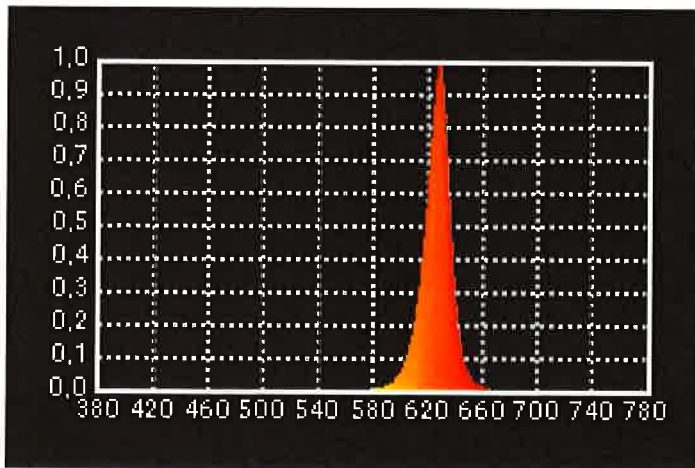
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2.2 Kırmızı Renk Spektrokolorimetrik Deney Sonuçları (spectrocolorimetric Test Results of the Red color)

Spectral Power Distribution



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2.3 Mavi Renk Deney Sonuçları (Test Results of the Blue Color)

Elektriksel Ölçümler

(Electrical Measurements)

Ölçülen Güç (W) (Input Power)	12,82
Ölçülen Gerilim (V) (Input Voltage)	48 VDC
Ölçülen Akım (A) (Input Current)	0,2670
Güç Faktörü (PF) (Power Factor)	-
Ölçülen Frekans (Hz) (Input Frequency)	-
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25,1 °C 48% Rh
Stabilizasyon Süresi (Stabilization Time)	60 dk ±5dk

Fotometrik Ölçüm Sonuçları

(Photometric Measurement Results)

Toplam Işık Akısı (Total Luminous Flux) (lm)	72,796
Maksimum Işık Şiddeti (Max. Light Intensity) (cd)	14,30
Armatür Etkinliği (Luminaire Efficacy) (lm/W)	5,68



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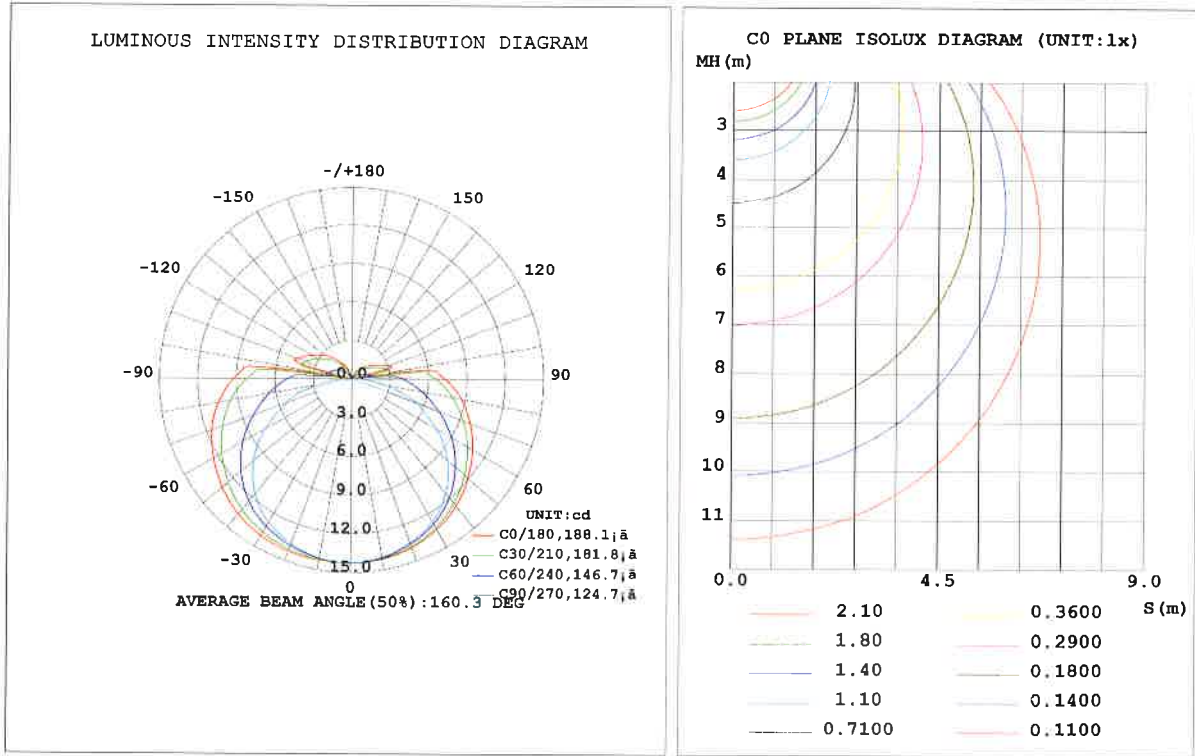
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2.3

Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)



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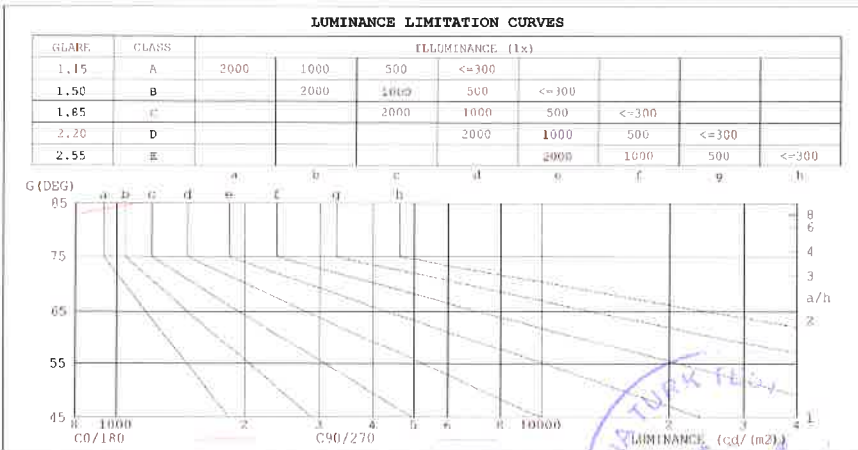
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2.3 Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)

**ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES**

ZONAL FLUX DIAGRAM:

y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	%lum.lamp
5	14.27	14.25	14.24	14.24	14.25	14.24	14.20	14.20	0- 5	0.3408	0.3408	0.47,0.47
10	14.29	14.18	14.11	14.15	14.19	14.13	14.03	14.10	5- 10	1.015	1.356	1.86,1.86
15	14.29	14.08	13.90	14.00	14.09	13.96	13.79	13.97	10- 15	1.670	3.026	4.16,4.16
20	14.26	13.93	13.62	13.78	13.93	13.73	13.50	13.81	15- 20	2.293	5.320	7.31,7.31
25	14.19	13.74	13.27	13.51	13.72	13.45	13.14	13.60	20- 25	2.873	8.193	11.3,11.3
30	14.06	13.49	12.84	13.18	13.46	13.11	12.70	13.34	25- 30	3.397	11.59	15.9,15.9
35	13.89	13.20	12.29	12.78	13.16	12.71	12.16	13.05	30- 35	3.855	15.44	21.2,21.2
40	13.68	12.85	11.63	12.33	12.80	12.25	11.49	12.70	35- 40	4.233	19.68	27,27
45	13.41	12.44	10.85	11.81	12.40	11.73	10.69	12.29	40- 45	4.521	24.20	33.2,33.2
50	13.10	11.98	9.947	11.23	11.95	11.16	9.791	11.83	45- 50	4.714	28.91	39.7,39.7
55	12.75	11.46	8.929	10.60	11.48	10.53	8.767	11.31	50- 55	4.808	33.72	46.3,46.3
60	12.36	10.89	7.797	9.931	10.98	9.853	7.631	10.73	55- 60	4.802	38.52	52.9,52.9
65	11.96	10.27	6.549	9.229	10.45	9.151	6.404	10.12	60- 65	4.701	43.22	59.4,59.4
70	11.53	9.649	5.404	8.511	9.910	8.437	5.422	9.501	65- 70	4.519	47.74	65.6,65.6
75	11.06	9.018	4.165	7.787	9.335	7.713	3.849	8.874	70- 75	4.272	52.01	71.5,71.5
80	10.49	8.354	2.590	7.047	8.699	6.986	2.416	8.216	75- 80	3.943	55.96	76.9,76.9
85	9.846	7.630	1.281	6.281	8.034	6.236	1.149	7.505	80- 85	3.563	59.52	81.8,81.8
90	9.127	6.885	0.0703	5.509	7.301	5.485	0.0175	6.769	85- 90	3.158	62.68	86.1,86.1
95	8.464	5.584	0.0351	3.972	6.643	4.467	0.0153	5.591	90- 95	2.725	65.40	89.8,89.8
100	0.0198	1.712	0.0355	1.336	0	1.063	0.0150	1.277	95-100	1.240	66.64	91.5,91.5
105	2.541	3.213	0.0325	2.173	1.965	2.117	0.0127	3.144	100-105	0.6418	67.29	92.4,92.4
110	4.497	2.928	0.0306	1.822	2.927	1.835	0.0133	2.906	105-110	1.156	68.44	94,94
115	4.021	2.615	0.0286	1.546	2.485	1.571	0.0130	2.589	110-115	1.001	69.44	95.4,95.4
120	3.567	2.317	0.0244	1.305	2.105	1.304	0.0137	2.263	115-120	0.8365	70.28	96.5,96.5
125	3.145	2.024	0.0238	1.067	1.784	1.067	0.0107	1.956	120-125	0.6877	70.97	97.5,97.5
130	2.744	1.734	0.0195	0.8491	1.489	0.8501	0.0104	1.674	125-130	0.5518	71.52	98.2,98.2
135	2.353	1.455	0.0101	0.6531	1.205	0.6626	0.0101	1.420	130-135	0.4247	71.94	98.8,98.8
140	1.978	1.209	0.0052	0.4845	0.9581	0.4931	0.0078	1.170	135-140	0.3195	72.26	99.3,99.3
145	1.624	0.9665	0	0.3459	0.7154	0.3505	0.0019	0.9426	140-145	0.2283	72.49	99.6,99.6
150	1.294	0.4171	0	0.1367	0.5084	0.1405	0	0.5048	145-150	0.1505	72.64	99.8,99.8
155	0.9986	0.1447	0.0013	0.0198	0.3266	0.0196	0	0.0911	150-155	0.0894	72.73	99.9,99.9
160	0.0042	0.3786	0	0.0409	0	0.0521	0	0.3444	155-160	0.0362	72.77	100,100
165	0.4324	0.2110	0	0.0001	0.0472	0.0061	0	0.1786	160-165	0.0159	72.78	100,100
170	0.2543	0.1139	0	0	0	0	0	0.1029	165-170	0.0099	72.79	100,100
175	0.1201	0.0660	0	0	0	0	0	0.0647	170-175	0.0031	72.80	100,100
180	0	0	0	0	0	0	0.0003	0	175-180	0.0005	72.80	100,100
DEG	LUMINOUS INTENSITY:cd										UNIT:lm	



LUMINANCE cd/(m2)

G (DEG)	C0/180	C90/270
85	1130	147
80	604	149
75	427	161
70	337	158
65	283	155
60	247	156
55	222	156
50	204	155
45	190	153

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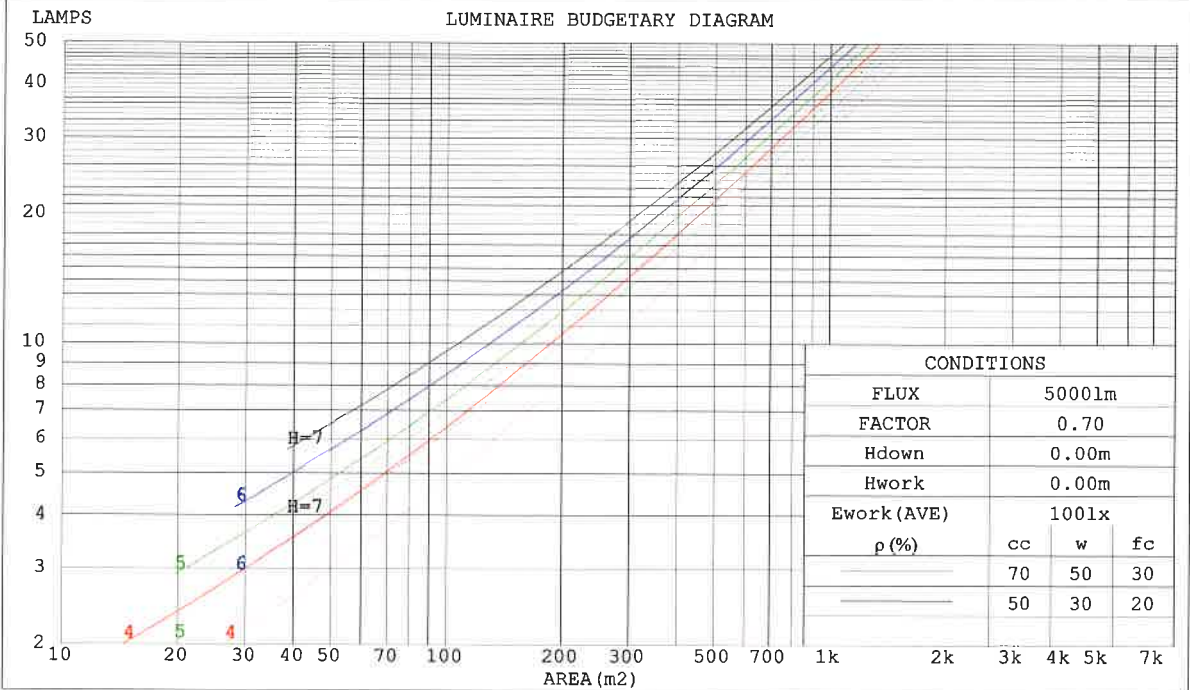
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2.3 Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _w																
p _{fc}																
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.16	1.16	1.16	1.11	1.11	1.11	1.03	1.03	1.03	.96	.96	.96	.89	.89	.89	.86
1.0	.95	.89	.84	.91	.86	.81	.84	.80	.76	.78	.75	.71	.72	.69	.67	.63
2.0	.81	.72	.65	.77	.70	.63	.71	.65	.60	.66	.61	.56	.61	.57	.53	.50
3.0	.69	.60	.52	.67	.58	.51	.62	.54	.48	.57	.51	.46	.53	.47	.43	.40
4.0	.61	.51	.43	.58	.49	.42	.54	.46	.40	.50	.43	.38	.46	.41	.36	.33
5.0	.54	.44	.37	.52	.43	.36	.48	.40	.34	.44	.38	.32	.41	.35	.31	.28
6.0	.48	.38	.31	.46	.37	.31	.43	.35	.29	.40	.33	.28	.37	.31	.27	.24
7.0	.43	.34	.27	.42	.33	.27	.39	.31	.26	.36	.29	.24	.34	.28	.23	.21
8.0	.39	.30	.24	.38	.29	.24	.35	.28	.23	.33	.26	.22	.31	.25	.21	.18
9.0	.36	.27	.21	.35	.27	.21	.32	.25	.20	.30	.24	.19	.28	.23	.18	.16
10.0	.33	.25	.19	.32	.24	.19	.30	.23	.18	.28	.22	.17	.26	.21	.17	.15



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2.3

Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)

WEC AND CCEC

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pf _c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.416	.236	.075	.404	.230	.073	.382	.219	.070	.362	.209	.067	.344	.199	.064	
2.0	.354	.194	.060	.344	.189	.058	.324	.180	.056	.306	.172	.054	.289	.164	.052	
3.0	.312	.166	.050	.302	.162	.049	.285	.154	.047	.268	.147	.045	.253	.140	.043	
4.0	.279	.145	.043	.270	.141	.042	.254	.135	.040	.239	.129	.039	.226	.123	.037	
5.0	.252	.128	.037	.244	.125	.037	.230	.120	.035	.216	.114	.034	.204	.109	.033	
6.0	.230	.115	.033	.223	.113	.032	.210	.108	.031	.198	.103	.030	.186	.098	.029	
7.0	.211	.104	.030	.205	.102	.029	.193	.098	.028	.182	.093	.027	.171	.089	.026	
8.0	.195	.096	.027	.190	.093	.026	.179	.089	.026	.169	.085	.025	.159	.082	.024	
9.0	.182	.088	.025	.177	.086	.024	.166	.082	.023	.157	.079	.023	.148	.075	.022	
10.0	.170	.081	.023	.165	.080	.022	.156	.076	.021	.147	.073	.021	.139	.070	.020	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pf _c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.296	.296	.296	.253	.253	.253	.173	.173	.173	.099	.099	.099	.032	.032	.032	
1.0	.294	.262	.233	.252	.225	.200	.172	.155	.139	.099	.090	.081	.032	.029	.026	
2.0	.288	.239	.198	.247	.206	.171	.169	.142	.119	.097	.083	.070	.031	.027	.023	
3.0	.281	.223	.176	.241	.192	.153	.165	.133	.107	.095	.078	.063	.031	.025	.021	
4.0	.273	.210	.162	.234	.182	.141	.161	.127	.099	.093	.074	.059	.030	.024	.019	
5.0	.265	.200	.153	.227	.173	.133	.157	.121	.094	.091	.071	.056	.029	.023	.018	
6.0	.257	.192	.146	.221	.167	.127	.152	.117	.090	.088	.069	.053	.029	.022	.018	
7.0	.250	.186	.141	.215	.161	.123	.148	.113	.087	.086	.067	.052	.028	.022	.017	
8.0	.243	.180	.137	.209	.156	.120	.145	.110	.085	.084	.065	.051	.027	.021	.017	
9.0	.236	.175	.134	.203	.152	.117	.141	.107	.083	.082	.063	.050	.027	.021	.016	
10.0	.230	.171	.132	.198	.149	.115	.138	.105	.082	.080	.062	.049	.026	.020	.016	



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2.3 Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)

Uncorrected UGR Table

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions	Viewed crosswise					Viewed endwise					
x = 2H y = 2H	7.4	8.9	7.8	9.3	9.8	5.5	7.0	6.0	7.4	7.9	
3H	10.3	11.7	10.8	12.2	12.7	7.3	8.7	7.8	9.2	9.7	
4H	12.0	13.3	12.5	13.8	14.3	8.1	9.4	8.6	9.9	10.5	
6H	13.8	15.0	14.3	15.6	16.1	8.7	10.0	9.3	10.5	11.1	
8H	14.8	16.0	15.3	16.5	17.1	8.9	10.1	9.5	10.7	11.3	
12H	15.9	17.1	16.5	17.6	18.2	9.1	10.3	9.7	10.8	11.4	
4H	2H	8.1	9.4	8.6	9.9	10.5	6.8	8.1	7.3	8.6	9.2
3H	11.3	12.4	11.8	13.0	13.6	8.9	10.1	9.5	10.6	11.2	
4H	13.1	14.2	13.7	14.7	15.4	9.9	11.0	10.5	11.6	12.2	
6H	15.1	16.1	15.7	16.7	17.4	10.8	11.8	11.4	12.4	13.0	
8H	16.3	17.2	16.9	17.8	18.4	11.1	12.0	11.7	12.6	13.3	
12H	17.5	18.4	18.2	19.0	19.7	11.4	12.2	12.0	12.8	13.5	
8H	4H	13.6	14.5	14.2	15.1	15.8	11.2	12.1	11.8	12.7	13.4
6H	15.9	16.7	16.6	17.3	18.1	12.5	13.3	13.1	13.9	14.6	
8H	17.3	17.9	17.9	18.6	19.3	13.1	13.8	13.7	14.4	15.2	
12H	18.8	19.4	19.5	20.1	20.8	13.6	14.2	14.2	14.9	15.6	
12H	4H	13.6	14.5	14.3	15.1	15.8	11.6	12.4	12.2	13.0	13.7
6H	16.1	16.8	16.8	17.4	18.2	13.1	13.8	13.8	14.5	15.2	
8H	17.5	18.2	18.2	18.8	19.6	13.9	14.5	14.6	15.2	16.0	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.2					
2.0H	+ 0.3 / - 0.4					+ 0.2 / - 0.3					

CIE Pub.117 Corrected 72.80 lm Total Lamp Luminous Flux. ($\log(F/F_0) = -9.1$)



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2.3 Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)**UTILIZATION FACTORS TABLE**

REFLECTANCE											
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0	
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0	
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$										
$k = 0.60$	47	34	27	46	34	27	44	33	26	19	
0.80	56	43	35	55	42	34	52	41	33	25	
1.00	64	51	42	62	50	41	59	51	40	32	
1.25	71	58	49	69	57	48	65	54	47	37	
1.50	76	63	54	74	62	54	69	59	52	42	
2.00	83	72	63	81	70	62	75	66	60	48	
2.50	88	77	69	85	75	68	79	71	65	53	
3.00	92	82	74	89	80	73	82	75	69	57	
4.00	97	88	82	93	86	79	87	80	75	62	
5.00	100	93	86	96	90	84	89	84	79	65	
ROOM INDEX	UF (total)									Direct	
According to DIN EN 13032-2 2004				Suspended				SHRNOM = 1.25			



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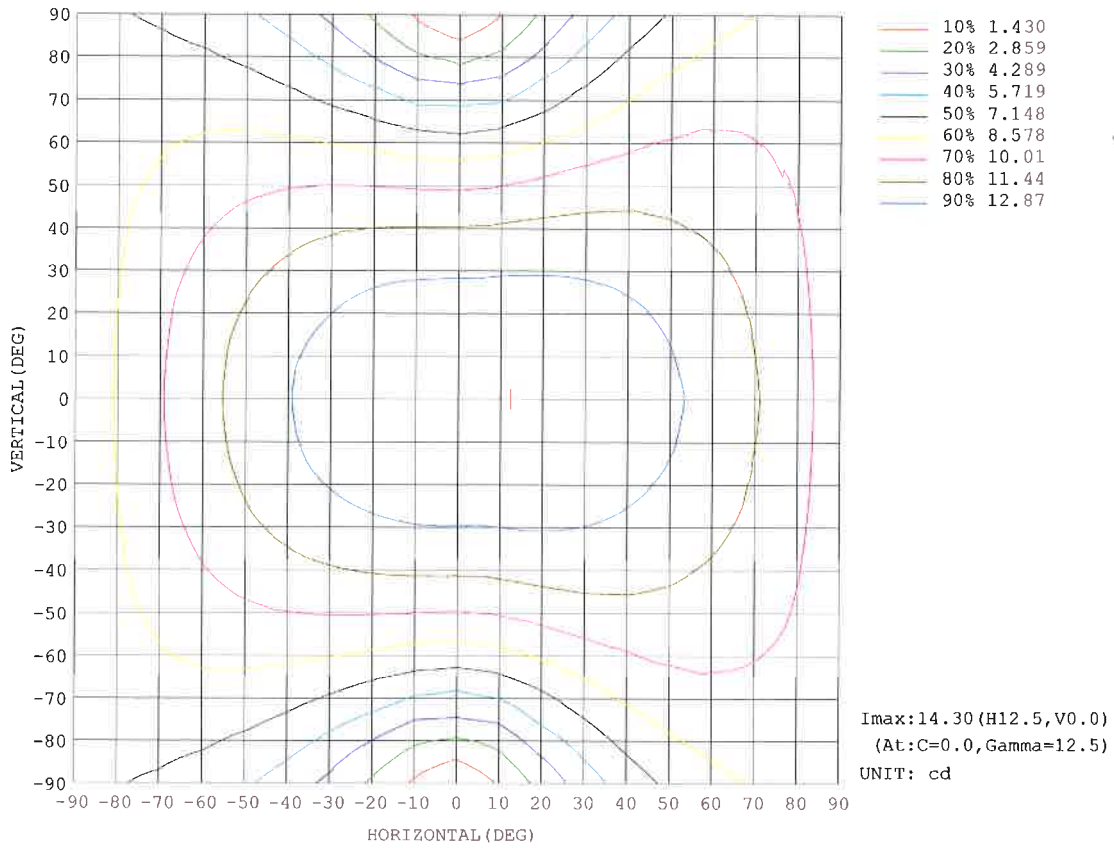
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MEASUREMENT REPORT

2.3

Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)

ISOCANDELA DIAGRAM



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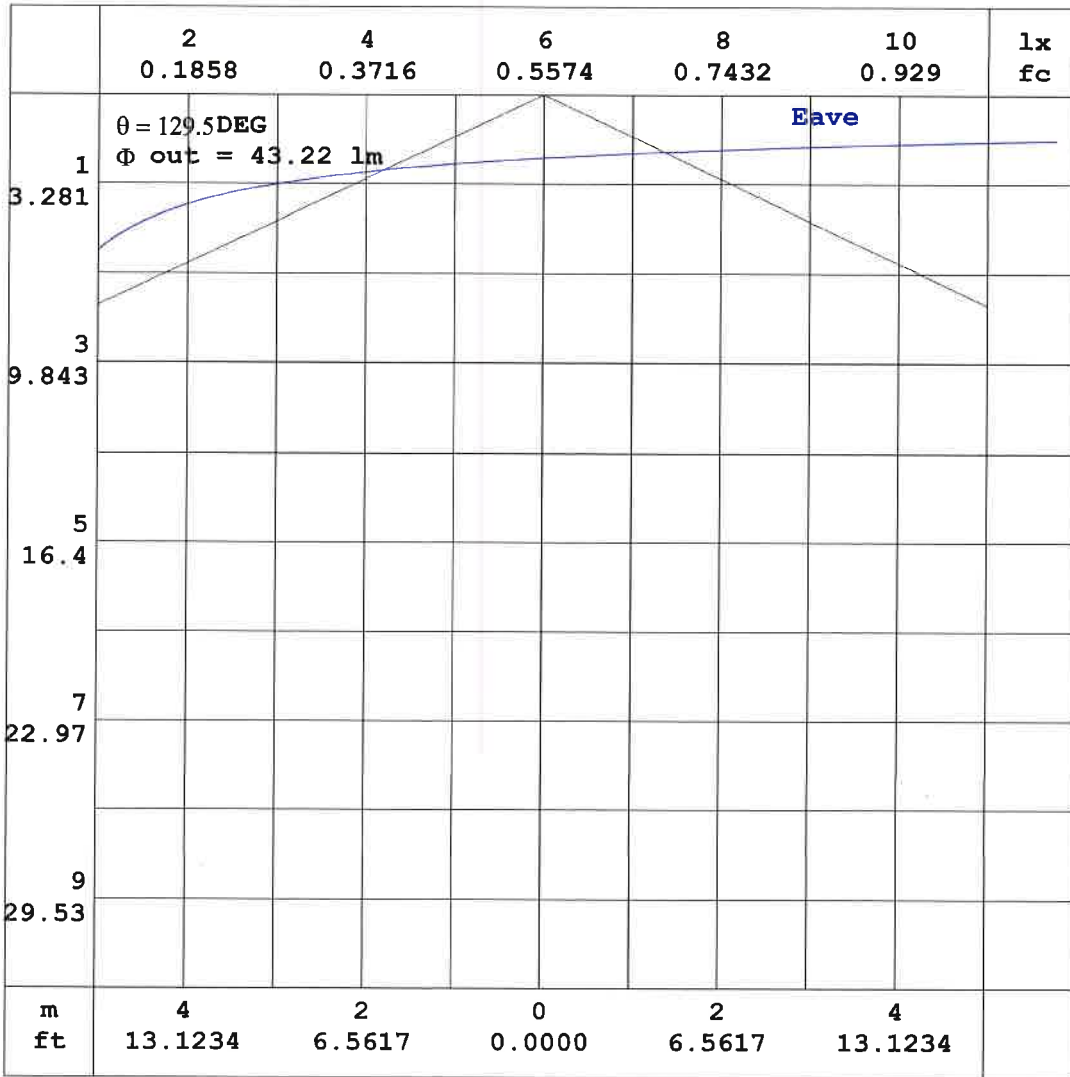
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2.3

Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)

AAI CURVES



Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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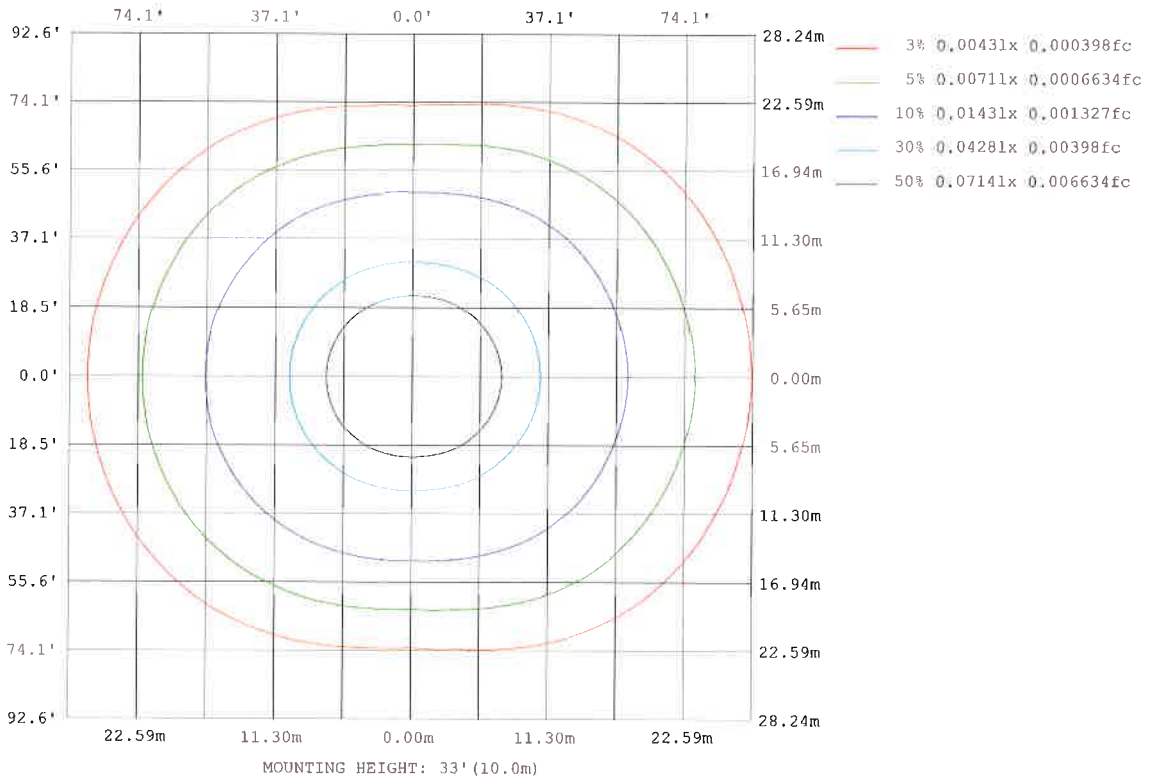
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2.3

Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)

ISOLUX DIAGRAM



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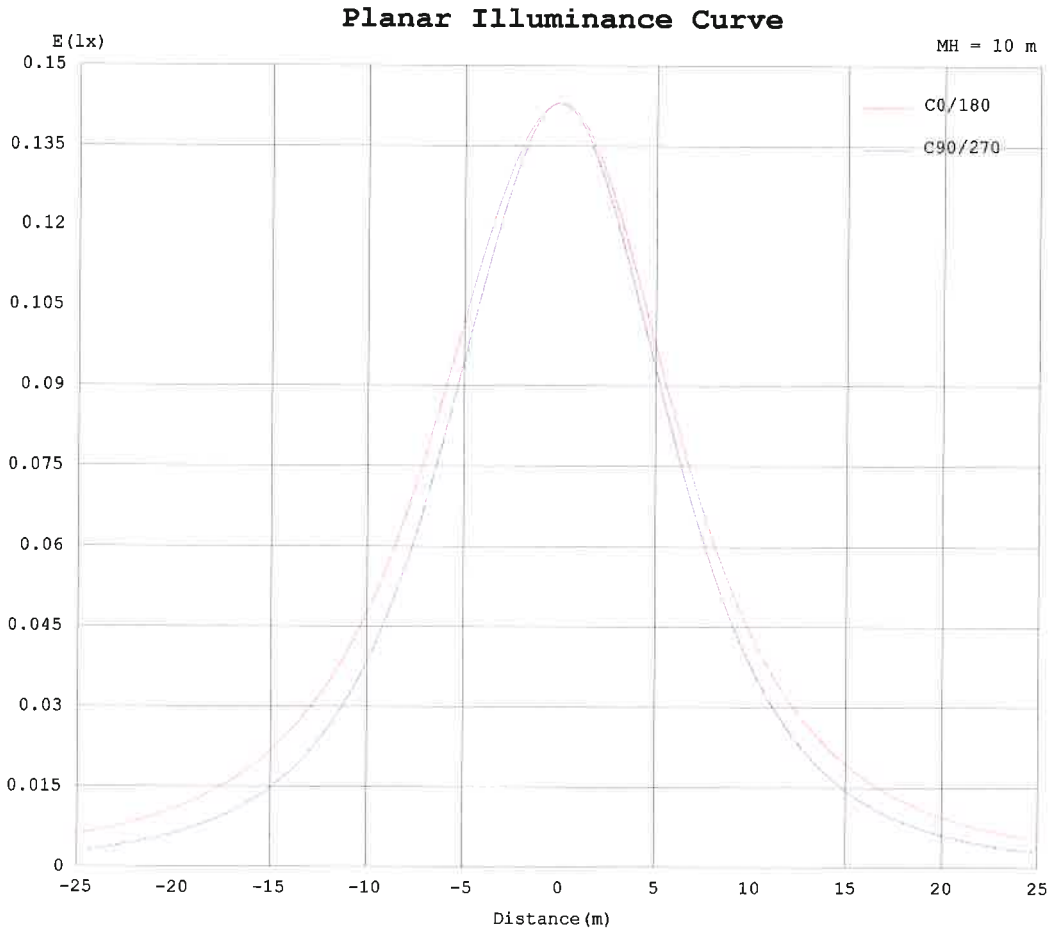
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2.3 Mavi renk Fotometrik Deney Sonuçları (Photometric Test Results of the Blue color)



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2.4 Mavi Renk Spektrokolorimetrik Deneş Sonuları (Spectrocolorimetric Test Results of the Blue color)**Elektriksel Ölümler**

(Electrical Measurements)

Ölülen Gü (W) (Input Power)	12,82
Ölülen Gerilim (V) (Input Voltage)	48 VDC
Ölülen Akım (A) (Input Current)	0,2670
Gü Faktörü (PF) (Power Factor)	-
Ölülen Frekans (Hz) (Input Frequency)	-
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25,1 °C 48% Rh
Stabilizasyon Süresi (Stabilization Time)	60 dk ±5dk

Spektrokolorimetrik Ölüm Sonuları

(Spectrocolorimetric Measurement Results)

Chrom x	0,1299
Chrom y	0,0946
Duv	0,00
Chrom u'	0,1341
Chrom v'	0,2197
Peak	496 nm
Dominant	473 nm
CCT	0 K
Nominal CCT	-
Ra(CRI)	0
R9	0
S/P Ratio	0,1
Preburning time	1 hr
Test Configuration	4π



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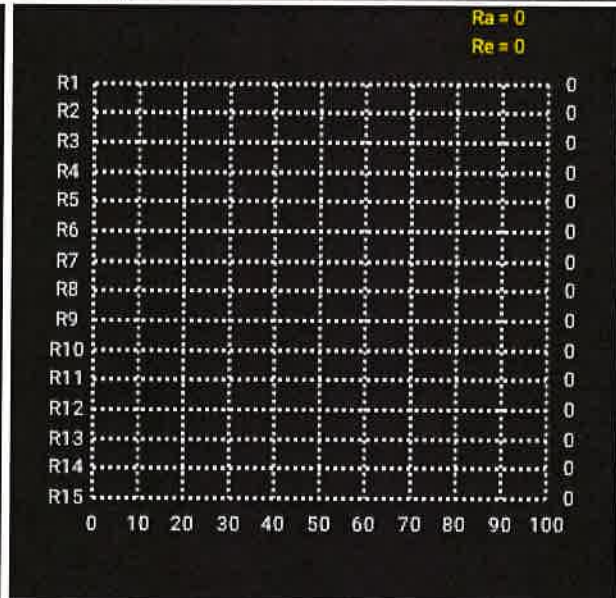
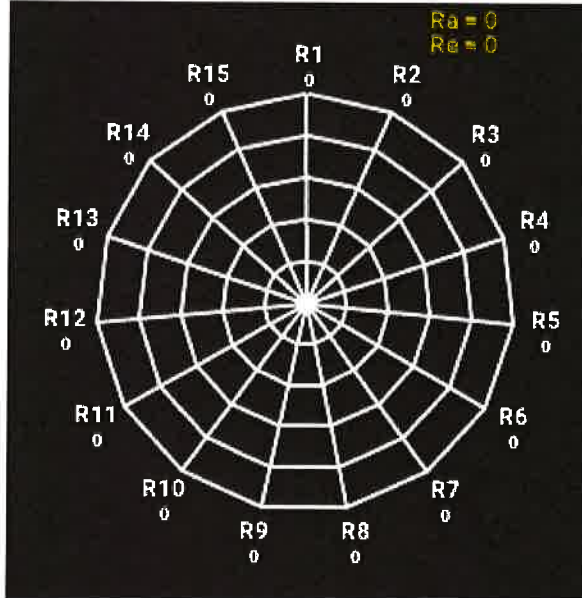
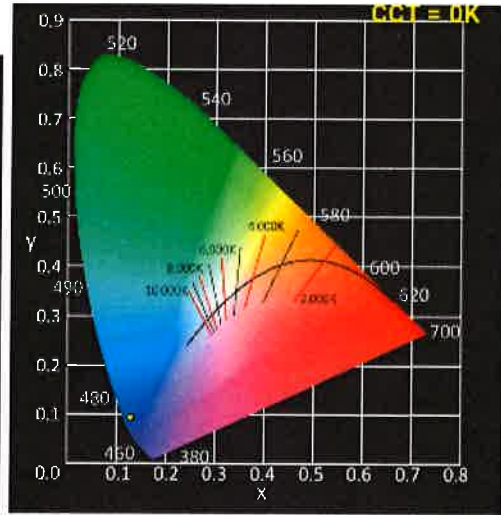
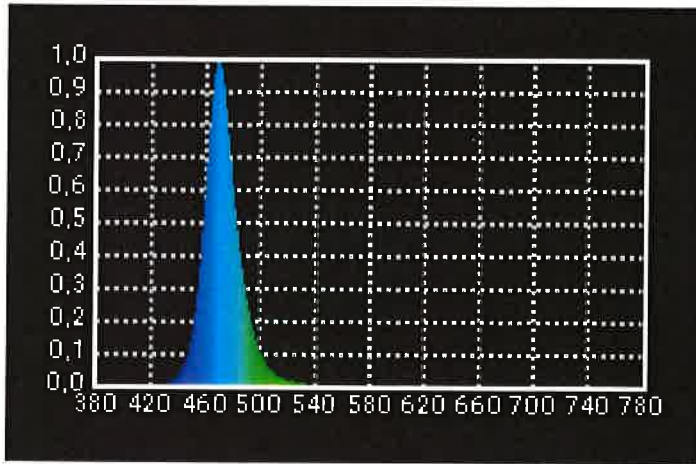
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2.4

Mavi Renk Spektrokolorimetrik Deneş Sonuřları (Spectrocolorimetric Test Results of the Blue color



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2.5 RGB Renk Deney Sonuçları (Test Results of the RGB Color)**Elektriksel Ölçümler**

(Electrical Measurements)

Ölçülen Güç (W) (Input Power)	28,71
Ölçülen Gerilim (V) (Input Voltage)	48 VDC
Ölçülen Akım (A) (Input Current)	0,5981
Güç Faktörü (PF) (Power Factor)	-
Ölçülen Frekans (Hz) (Input Frequency)	-
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25 °C 50% Rh
Stabilizasyon Süresi (Stabilization Time)	30 dk ±5dk

Fotometrik Ölçüm Sonuçları

(Photometric Measurement Results)

Toplam Işık Akısı (Total Luminous Flux) (lm)	446,62
Maksimum Işık Şiddeti (Max. Light Intensity) (cd)	85,08
Armatür Etkinliği (Luminaire Efficacy) (lm/W)	15,56



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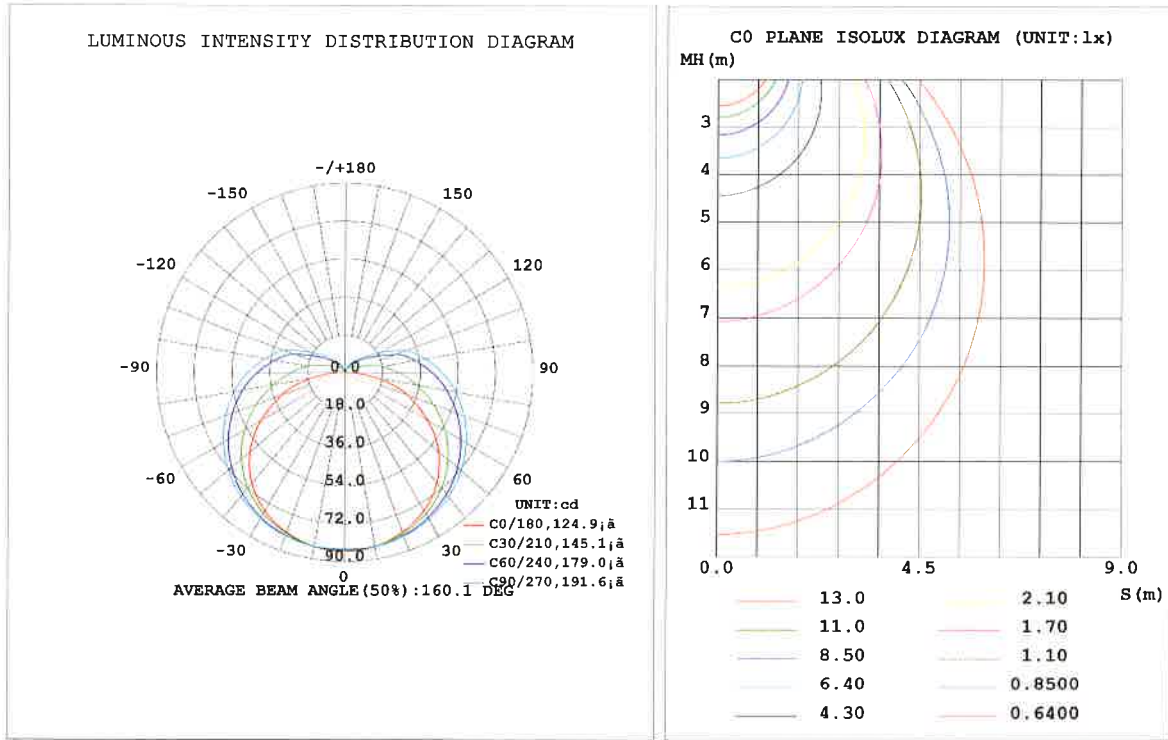
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2.5 RGB renk Fotometrik Deney Sonuçları (Photometric Test Results of the RGB color)



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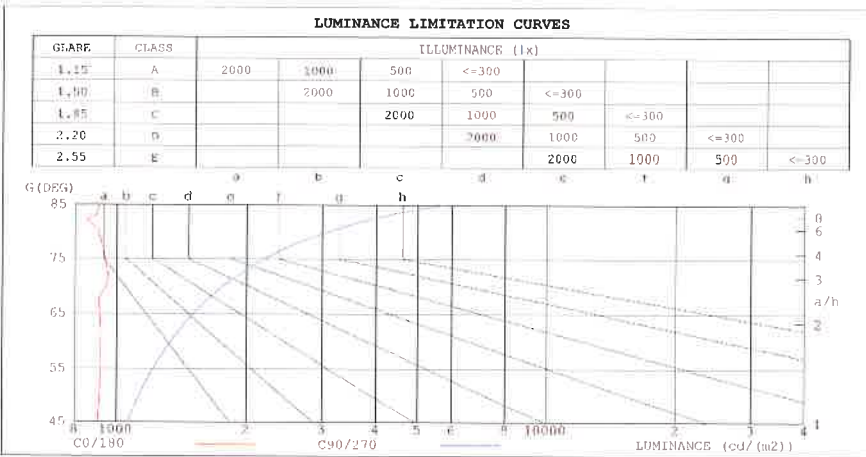
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2.5 RGB renk Fotometrik Deneş Sonuları (Photometric Test Results of the RGB color)

ZONAL FLUX DIAGRAM:

y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	%lum_lamp
5	84.82	84.31	84.05	84.31	84.82	84.31	84.05	84.31	0- 5	2.018	2.018	0.45,0.45
10	83.99	83.95	83.93	83.95	83.99	83.95	83.93	83.95	5- 10	6.024	8.042	1.8,1.8
15	82.68	83.17	83.51	83.17	82.68	83.17	83.51	83.17	10- 15	9.916	17.96	4.02,4.02
20	80.95	81.99	82.84	81.99	80.95	81.99	82.84	81.99	15- 20	13.61	31.57	7.07,7.07
25	78.75	80.51	81.89	80.51	78.75	80.51	81.89	80.51	20- 25	17.04	48.61	10.9,10.9
30	76.08	78.68	80.64	78.68	76.08	78.68	80.64	78.68	25- 30	20.13	68.75	15.4,15.4
35	72.77	76.53	79.06	76.53	72.77	76.53	79.06	76.53	30- 35	22.81	91.56	20.5,20.5
40	68.77	73.99	77.19	73.99	68.77	73.99	77.19	73.99	35- 40	25.01	116.6	26.1,26.1
45	64.11	71.09	75.01	71.09	64.11	71.09	75.01	71.09	40- 45	26.67	143.2	32.1,32.1
50	58.79	67.84	72.58	67.84	58.79	67.84	72.58	67.84	45- 50	27.75	171.0	38.3,38.3
55	52.74	64.27	69.86	64.27	52.74	64.27	69.86	64.27	50- 55	28.23	199.2	44.6,44.6
60	46.04	60.41	66.93	60.41	46.04	60.41	66.93	60.41	55- 60	28.11	227.3	50.9,50.9
65	38.69	56.33	63.80	56.33	38.69	56.33	63.80	56.33	60- 65	27.41	254.7	57.57
70	32.40	52.10	60.51	52.10	32.40	52.10	60.51	52.10	65- 70	26.19	280.9	62.9,62.9
75	24.35	47.82	57.15	47.82	24.35	47.82	57.15	47.82	70- 75	24.57	305.5	68.4,68.4
80	15.72	43.57	53.70	43.57	15.72	43.57	53.70	43.57	75- 80	22.56	328.1	73.5,73.5
85	7.958	39.40	50.14	39.40	7.958	39.40	50.14	39.40	80- 85	20.31	348.4	78.79
90	0.6044	35.29	46.41	35.29	0.6044	35.29	46.41	35.29	85- 90	18.04	366.4	82.82
95	0.2743	31.32	42.63	31.32	0.2743	31.32	42.63	31.32	90- 95	15.88	382.3	85.6,85.6
100	0.2392	27.58	38.85	27.58	0.2392	27.58	38.85	27.58	95-100	13.90	396.2	88.7,88.7
105	0.2058	24.03	35.08	24.03	0.2058	24.03	35.08	24.03	100-105	11.91	408.1	91.4,91.4
110	0.1788	18.35	31.32	18.35	0.1788	18.35	31.32	18.35	105-110	9.920	418.0	93.6,93.6
115	0.1509	14.30	24.96	14.30	0.1509	14.30	24.96	14.30	110-115	7.773	425.8	95.3,95.3
120	0.1293	10.93	19.40	10.93	0.1293	10.93	19.40	10.93	115-120	5.811	431.6	96.6,96.6
125	0.1094	8.728	15.21	8.728	0.1094	8.728	15.21	8.728	120-125	4.347	435.9	97.6,97.6
130	0.0907	7.215	11.89	7.215	0.0907	7.215	11.89	7.215	125-130	3.229	439.2	98.3,98.3
135	0.0762	5.634	9.555	5.634	0.0762	5.634	9.555	5.634	130-135	2.402	441.6	98.9,98.9
140	0.0682	4.545	7.816	4.545	0.0682	4.545	7.816	4.545	135-140	1.778	443.3	99.3,99.3
145	0.0621	3.472	5.901	3.472	0.0621	3.472	5.901	3.472	140-145	1.255	444.6	99.5,99.5
150	0.0569	2.691	4.490	2.691	0.0569	2.691	4.490	2.691	145-150	0.8529	445.5	99.7,99.7
155	0.0534	1.974	3.269	1.974	0.0534	1.974	3.269	1.974	150-155	0.5482	446.0	99.9,99.9
160	0.0569	1.370	2.292	1.370	0.0569	1.370	2.292	1.370	155-160	0.3302	446.3	99.9,99.9
165	0.0563	0.8882	1.444	0.8882	0.0563	0.8882	1.444	0.8882	160-165	0.1752	446.5	100,100
170	0.0572	0.4995	0.7909	0.4995	0.0572	0.4995	0.7909	0.4995	165-170	0.0776	446.6	100,100
175	0.0563	0.1966	0.2621	0.1966	0.0563	0.1966	0.2621	0.1966	170-175	0.0239	446.6	100,100
180	0.0499	0.0108	0.0219	0.0108	0.0499	0.0108	0.0219	0.0108	175-180	0.0029	446.6	100,100



LUMINANCE cd/(m2)

G (DEG)	C0/180	C90/270
85	913	5753
80	905	3092
75	941	2208
70	947	1769
65	915	1510
60	921	1339
55	919	1218
50	915	1129
45	907	1061



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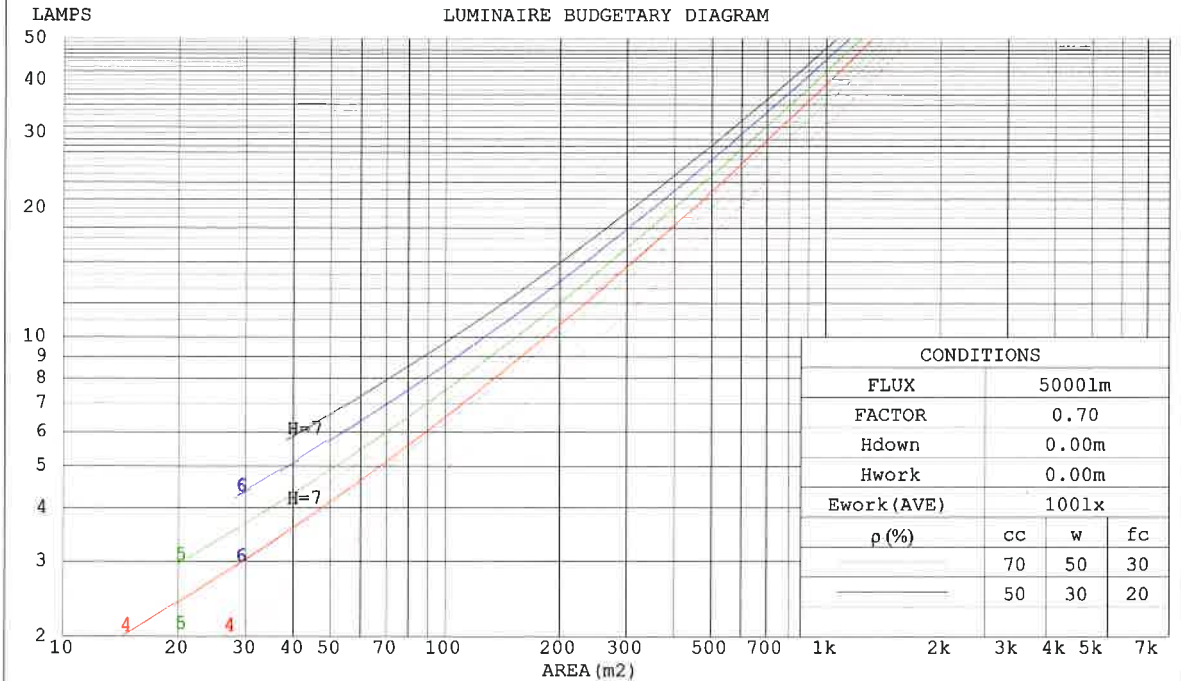
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2.5 RGB renk Fotometrik Deneş Sonuřları (Photometric Test Results of the RGB color)

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization (CU)									
0.0	1.15	1.15	1.15	1.10	1.10	1.10	1.01	1.01	1.01	.93	.93	.93	.86	.86	.86	.82
1.0	.95	.89	.84	.91	.85	.81	.83	.79	.75	.76	.72	.69	.69	.67	.64	.61
2.0	.80	.72	.65	.77	.69	.63	.70	.64	.59	.64	.59	.55	.59	.55	.51	.48
3.0	.69	.60	.53	.66	.58	.51	.61	.54	.48	.56	.50	.45	.51	.46	.42	.39
4.0	.61	.51	.44	.58	.49	.42	.53	.46	.40	.49	.42	.37	.45	.39	.35	.32
5.0	.54	.44	.37	.52	.43	.36	.47	.40	.34	.43	.37	.32	.40	.34	.30	.27
6.0	.48	.38	.32	.46	.37	.31	.42	.35	.29	.39	.32	.27	.36	.30	.26	.23
7.0	.43	.34	.28	.42	.33	.27	.38	.31	.25	.35	.29	.24	.32	.27	.23	.20
8.0	.39	.30	.24	.38	.29	.24	.35	.28	.22	.32	.26	.21	.30	.24	.20	.18
9.0	.36	.27	.22	.35	.26	.21	.32	.25	.20	.30	.23	.19	.27	.22	.18	.16
10.0	.33	.25	.19	.32	.24	.19	.29	.23	.18	.27	.21	.17	.25	.20	.16	.14



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2.5 RGB renk Fotometrik Deney Sonuçları (Photometric Test Results of the RGB color)

WEC AND CCEC

p _{cc}	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.405	.230	.073	.392	.224	.071	.368	.211	.067	.346	.200	.064	.326	.189	.061	
2.0	.346	.190	.058	.335	.184	.057	.313	.174	.054	.293	.165	.052	.275	.155	.049	
3.0	.306	.163	.049	.295	.158	.048	.276	.149	.045	.258	.141	.043	.241	.133	.041	
4.0	.274	.142	.042	.264	.138	.041	.247	.131	.039	.230	.124	.037	.215	.117	.036	
5.0	.248	.126	.037	.240	.123	.036	.223	.116	.034	.208	.110	.033	.194	.104	.031	
6.0	.227	.114	.033	.219	.111	.032	.204	.105	.030	.190	.099	.029	.178	.094	.028	
7.0	.209	.103	.029	.201	.100	.029	.188	.095	.027	.175	.090	.026	.164	.085	.025	
8.0	.193	.094	.027	.187	.092	.026	.174	.087	.025	.163	.082	.024	.152	.078	.023	
9.0	.180	.087	.024	.174	.085	.024	.162	.080	.023	.152	.076	.022	.142	.072	.021	
10.0	.168	.081	.022	.162	.078	.022	.152	.074	.021	.142	.071	.020	.133	.067	.019	

p _{cc}	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.327	.327	.327	.280	.280	.280	.191	.191	.191	.110	.110	.110	.035	.035	.035	
1.0	.325	.293	.265	.278	.252	.228	.190	.173	.158	.109	.100	.092	.035	.032	.030	
2.0	.318	.271	.230	.273	.233	.199	.187	.161	.139	.108	.094	.081	.035	.030	.027	
3.0	.311	.254	.209	.267	.219	.181	.183	.152	.127	.106	.089	.075	.034	.029	.025	
4.0	.303	.242	.195	.260	.209	.169	.179	.146	.119	.103	.085	.071	.033	.028	.023	
5.0	.295	.232	.185	.254	.201	.161	.175	.140	.114	.101	.082	.068	.033	.027	.022	
6.0	.288	.224	.178	.247	.194	.155	.171	.136	.110	.099	.080	.065	.032	.026	.022	
7.0	.281	.218	.173	.241	.189	.151	.167	.132	.107	.097	.078	.064	.031	.026	.021	
8.0	.274	.212	.170	.236	.184	.148	.163	.129	.105	.095	.076	.062	.031	.025	.021	
9.0	.267	.207	.167	.230	.180	.145	.160	.126	.103	.093	.075	.062	.030	.025	.020	
10.0	.261	.203	.164	.225	.176	.143	.156	.124	.102	.091	.073	.061	.030	.024	.020	



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2.5 RGB renk Fotometrik Deney Sonuçları (Photometric Test Results of the RGB color)

Uncorrected UGR Table

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	11.3	12.7	11.8	13.3	13.8	12.9	14.3	13.4	14.8	15.4
3H	13.1	14.4	13.7	15.0	15.6	15.7	17.0	16.2	17.5	18.1
4H	13.9	15.1	14.5	15.7	16.3	17.2	18.5	17.8	19.0	19.6
6H	14.5	15.7	15.1	16.3	16.9	18.9	20.1	19.5	20.7	21.3
8H	14.7	15.9	15.3	16.5	17.1	19.9	21.0	20.5	21.6	22.3
12H	14.9	16.0	15.5	16.6	17.3	21.0	22.1	21.6	22.7	23.4
4H 2H	12.5	13.7	13.1	14.3	14.9	13.6	14.8	14.1	15.4	16.0
3H	14.6	15.7	15.2	16.3	17.0	16.6	17.7	17.2	18.3	19.0
4H	15.6	16.6	16.2	17.2	17.9	18.3	19.3	19.0	20.0	20.7
6H	16.4	17.3	17.1	18.0	18.7	20.3	21.2	20.9	21.8	22.6
8H	16.7	17.6	17.4	18.2	19.0	21.3	22.2	22.0	22.8	23.6
12H	17.0	17.8	17.6	18.4	19.2	22.6	23.3	23.2	24.0	24.8
8H 4H	16.7	17.5	17.3	18.2	18.9	18.8	19.6	19.4	20.3	21.0
6H	17.9	18.6	18.6	19.3	20.1	21.0	21.7	21.7	22.4	23.2
8H	18.5	19.1	19.2	19.8	20.7	22.3	22.9	23.0	23.7	24.5
12H	19.0	19.5	19.7	20.3	21.1	23.8	24.4	24.5	25.1	25.9
12H 4H	17.0	17.8	17.7	18.4	19.2	18.8	19.6	19.5	20.3	21.1
6H	18.5	19.1	19.2	19.8	20.7	21.2	21.8	21.9	22.5	23.4
8H	19.3	19.8	20.0	20.5	21.4	22.6	23.2	23.3	23.9	24.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 446.6 lm Total Lamp Luminous Flux. (8log(F/F0) = -2.8)



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2.5 RGB renk Fotometrik Deney Sonuçları (Photometric Test Results of the RGB color)

UTILIZATION FACTORS TABLE

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	46	34	26	45	33	26	43	32	26	19
0.80	55	42	34	54	41	33	51	40	33	25
1.00	63	50	41	61	49	40	58	49	39	30
1.25	70	57	48	68	55	47	63	53	46	36
1.50	75	62	53	72	61	52	68	58	50	40
2.00	82	71	62	79	69	61	74	65	58	46
2.50	87	76	68	84	74	66	78	70	63	50
3.00	91	81	73	87	79	71	81	74	68	54
4.00	96	87	80	92	84	78	85	79	73	59
5.00	99	92	85	95	88	83	87	82	77	62
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNOM = 1.25										



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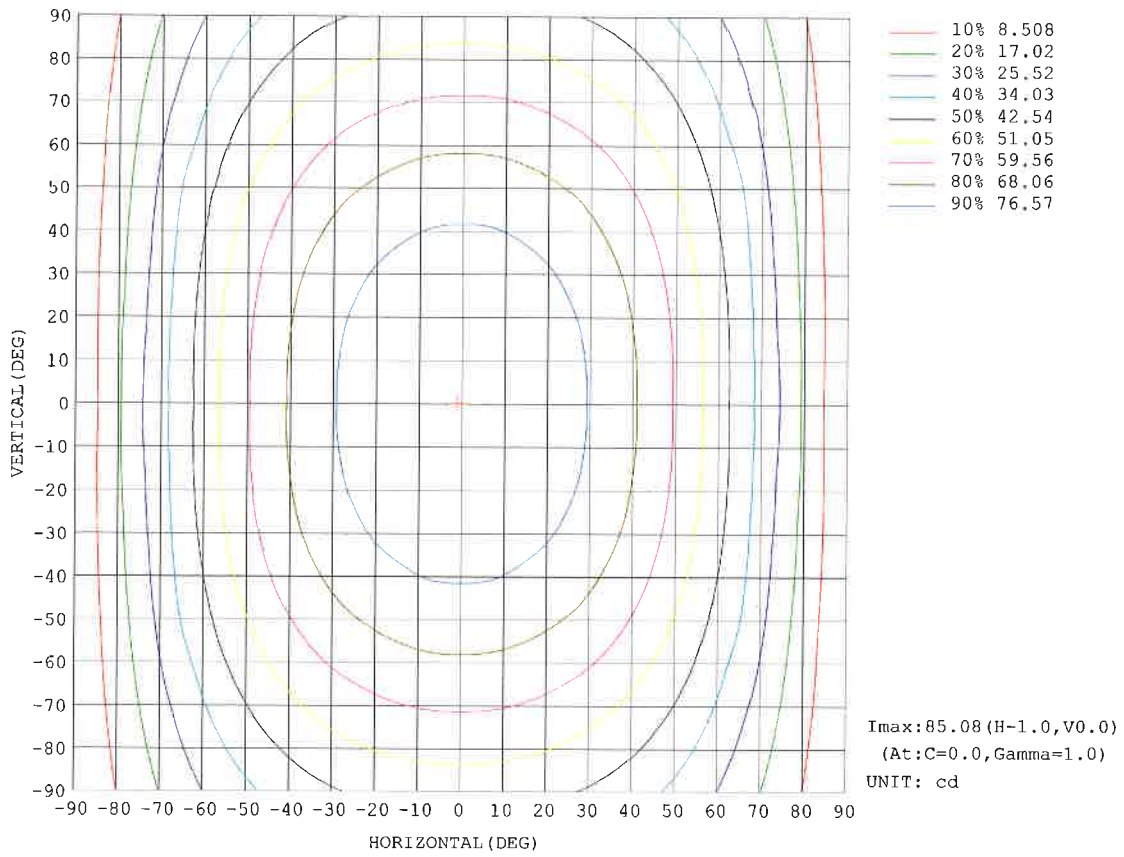
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2.5 RGB renk Fotometrik Deneş Sonuđları (Photometric Test Results of the RGB color)

ISOCANDELA DIAGRAM



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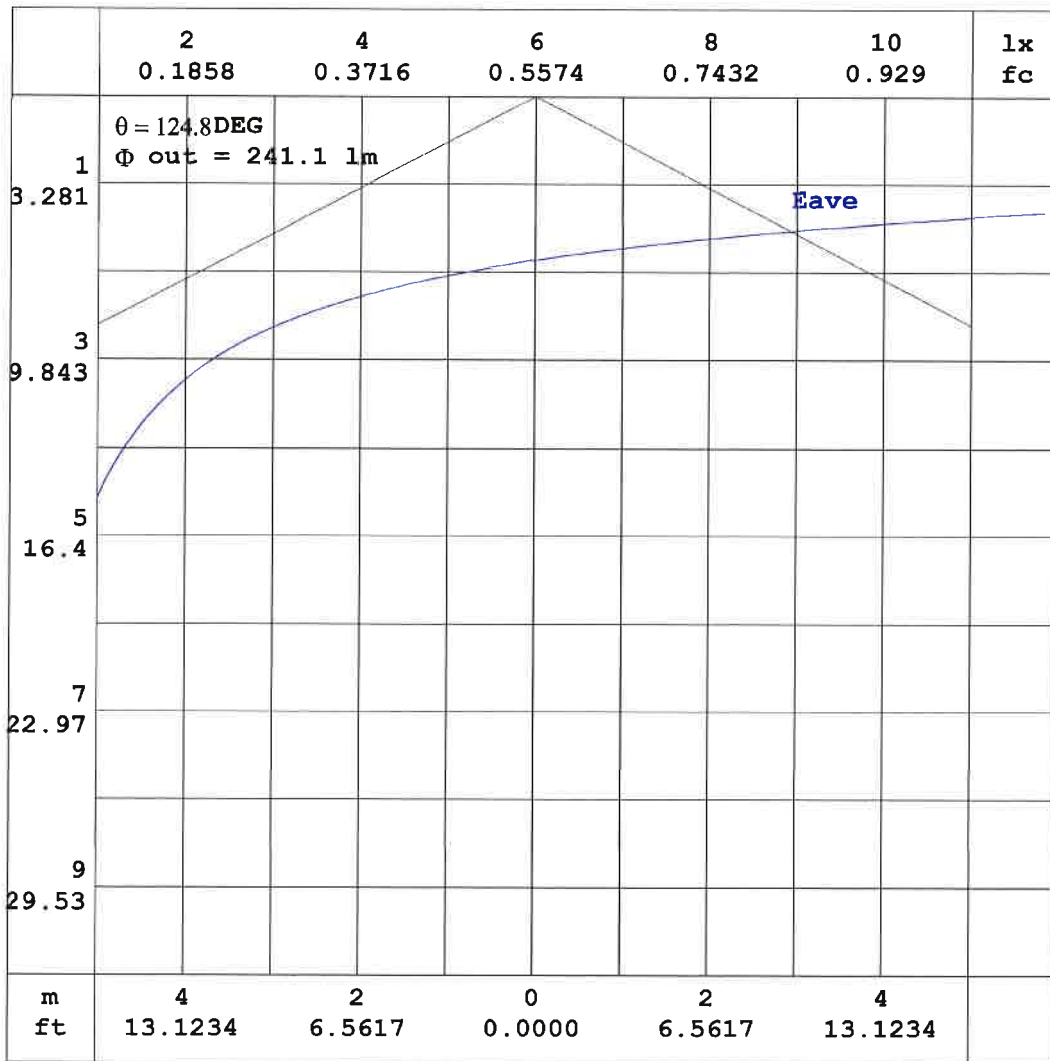
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2.5 RGB renk Fotometrik Deney Sonuçları (Photometric Test Results of the RGB color)**AAI CURVES**

Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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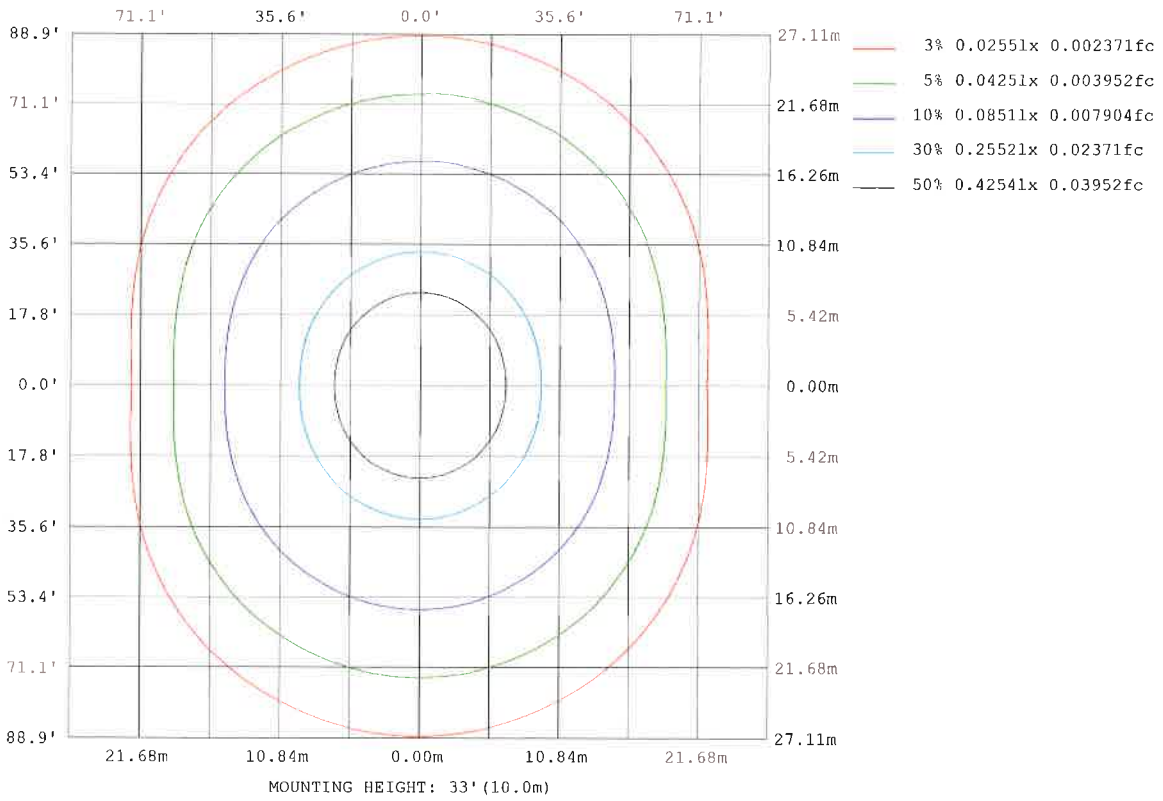
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2.5 RGB renk Fotometrik Deney Sonuçları (Photometric Test Results of the RGB color)

ISOLUX DIAGRAM



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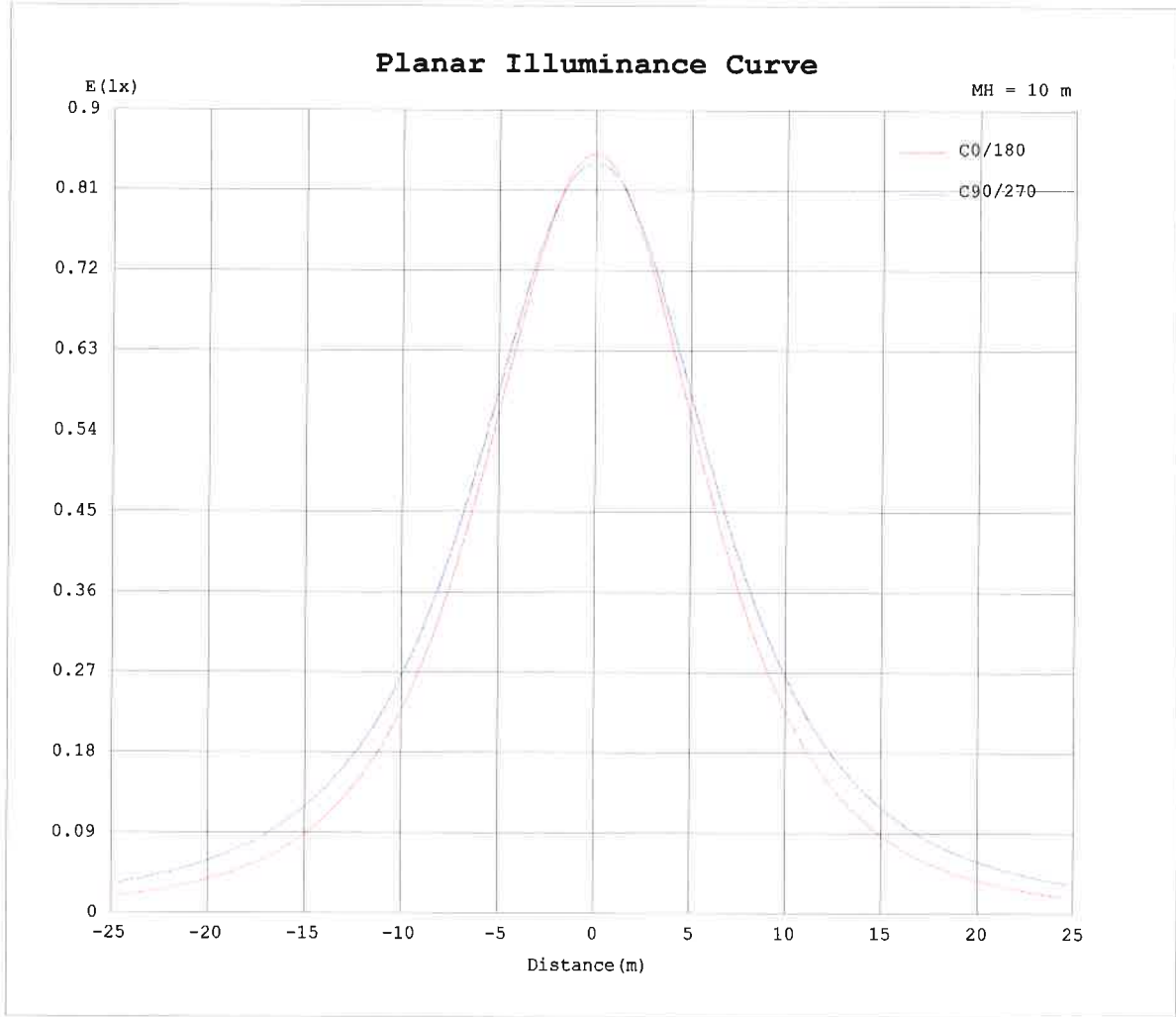
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2.5 RGB renk Fotometrik Deney Sonuçları (Photometric Test Results of the RGB color)



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2.6 RGB Renk Spektrokolorimetrik Deney Sonuçları (Spectrocolorimetric Test Results of the RGB color)**Elektriksel Ölçümler**

(Electrical Measurements)

Ölçülen Güç (W) (Input Power)	28,71
Ölçülen Gerilim (V) (Input Voltage)	48 VDC
Ölçülen Akım (A) (Input Current)	0,598
Güç Faktörü (PF) (Power Factor)	-
Ölçülen Frekans (Hz) (Input Frequency)	-
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25 °C 50% Rh
Stabilizasyon Süresi (Stabilization Time)	30 dk ±5dk

Spektrokolorimetrik Ölçüm Sonuçları

(Spectrocolorimetric Measurement Results)

Chrom x	0.2546
Chrom y	0.3029
Duv	-0.0014
Chrom u'	0.1663
Chrom v'	0.4450
Peak	470 nm
Dominant	487 nm
CCT	Not applicable
Nominal CCT	4000 K
Ra(CRI)	59
R9	-124
S/P Ratio	3.8
Preburning time	1 hr
Test Configuration	4π



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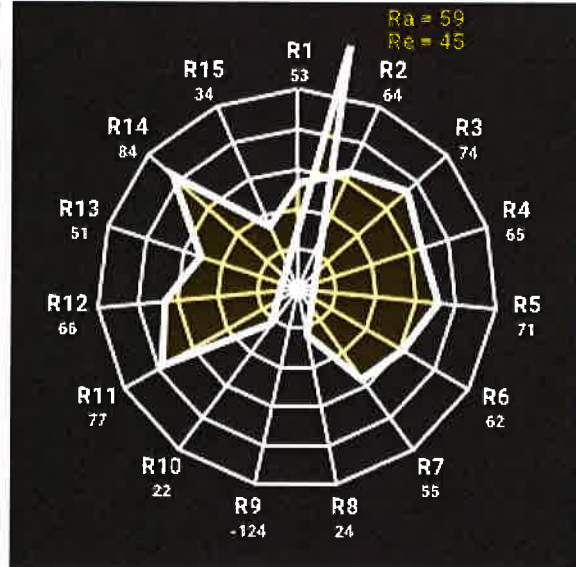
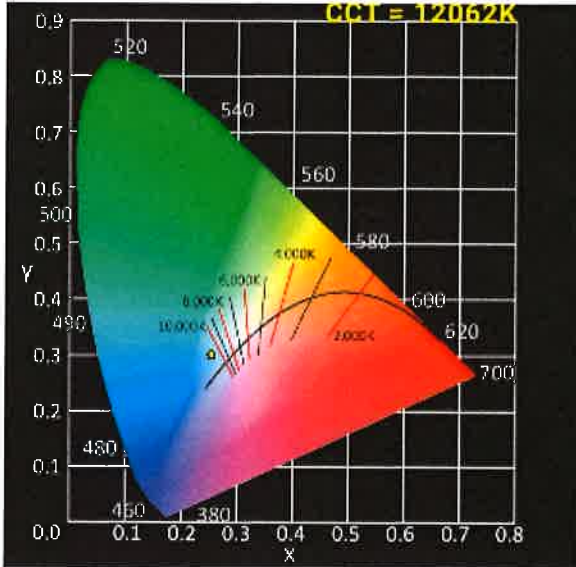
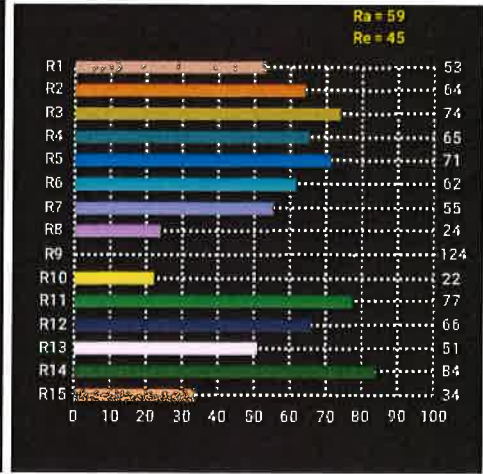
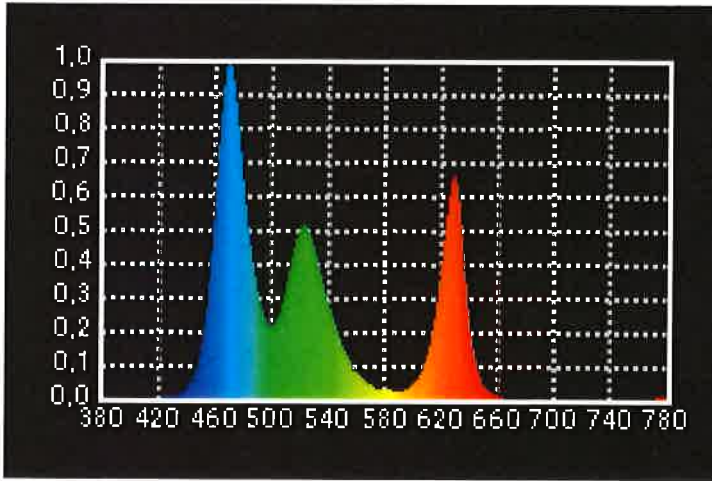
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2.6

RGB Renk Spektrokolorimetrik Deney Sonuçları (Spectrocolorimetric Test Results of the RGB color)



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2.7 Yeşil Renk Deney Sonuçları (Test Results of the Green Color)**Elektriksel Ölçümler**

(Electrical Measurements)

Ölçülen Güç (W) (Input Power)	12,79
Ölçülen Gerilim (V) (Input Voltage)	48 VDC
Ölçülen Akım (A) (Input Current)	0,2665
Güç Faktörü (PF) (Power Factor)	-
Ölçülen Frekans (Hz) (Input Frequency)	-
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25,1 °C 48% Rh
Stabilizasyon Süresi (Stabilization Time)	60 dk ±5dk

Fotometrik Ölçüm Sonuçları

(Photometric Measurement Results)

Toplam Işık Akısı (Total Luminous Flux) (lm)	295,28
Maksimum Işık Şiddeti (Max. Light Intensity) (cd)	1258,39
Armatür Etkinliği (Luminaire Efficacy) (lm/W)	23,08



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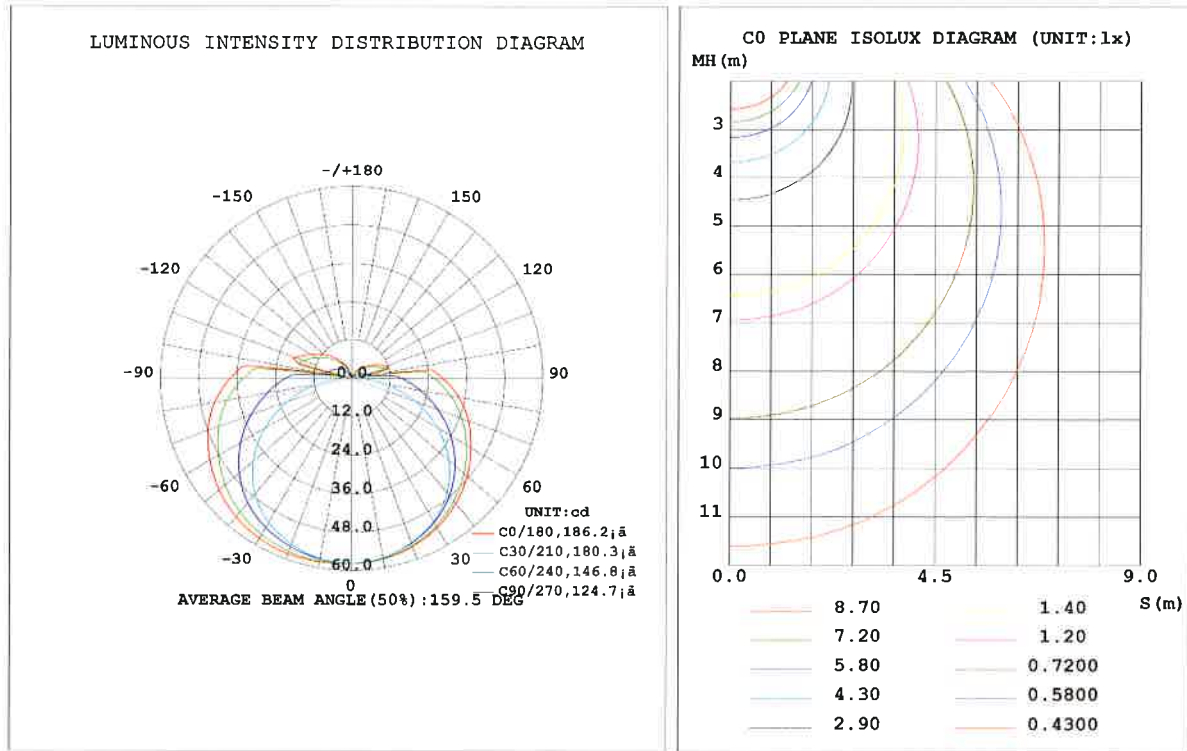
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2.7

Yeşil renk Fotometrik Deneş Sonuları (Photometric Test Results of the Green color)



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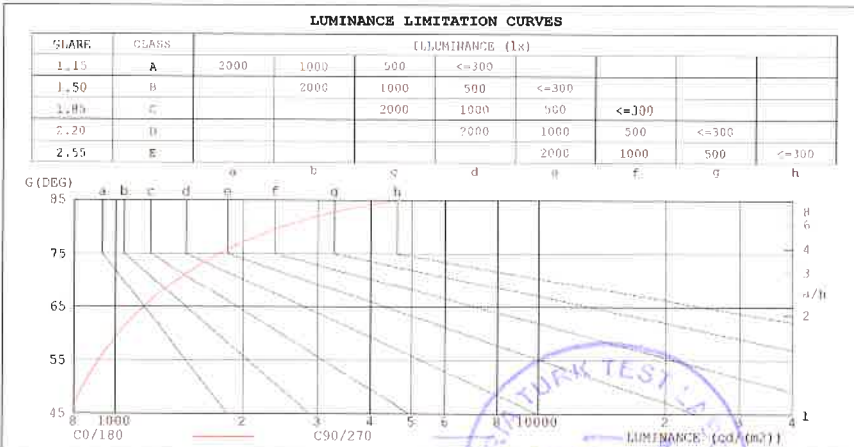
ÖLÇÜM RAPORU
MEASUREMENT REPORT

2.7 Yeşil renk Fotometrik Deneş Sonuları (Photometric Test Results of the Green color)

**ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES**

ZONAL FLUX DIAGRAM:

y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	lum, lamp
5	58.00	57.86	57.70	57.58	57.68	57.61	57.52	57.58	0- 5	1.380	1.380	0.47,0.47
10	58.23	57.66	57.18	57.10	57.27	57.06	56.84	57.28	5- 10	4.110	5.490	1.86,1.86
15	58.38	57.35	56.34	56.39	56.71	56.27	55.88	56.88	10- 15	6.761	12.25	4.15,4.15
20	58.36	56.85	55.21	55.45	55.96	55.26	54.67	56.30	15- 20	9.284	21.54	7.29,7.29
25	58.16	56.14	53.80	54.26	55.01	54.02	53.20	55.53	20- 25	11.63	33.17	11.2,11.2
30	57.75	55.23	52.05	52.83	53.85	52.56	51.45	54.58	25- 30	13.75	46.92	15.9,15.9
35	57.14	54.11	49.83	51.18	52.51	50.89	49.24	53.42	30- 35	15.60	62.52	21.2,21.2
40	56.34	52.77	47.14	49.26	51.01	48.96	46.52	52.06	35- 40	17.13	79.66	27.27
45	55.31	51.19	43.98	47.12	49.31	46.81	43.32	50.48	40- 45	18.30	97.96	33.2,33.2
50	54.08	49.35	40.34	44.73	47.46	44.44	39.65	48.64	45- 50	19.08	117.0	39.6,39.6
55	52.55	47.26	36.21	42.16	45.49	41.84	35.50	46.54	50- 55	19.46	136.5	46.2,46.2
60	51.14	44.98	31.61	39.40	43.44	39.10	30.90	44.25	55- 60	19.44	155.9	52.8,52.8
65	49.52	42.51	26.56	36.54	41.28	36.24	25.91	41.80	60- 65	19.03	175.0	59.3,59.3
70	47.77	39.96	21.39	33.64	39.09	33.36	21.07	39.26	65- 70	18.28	193.3	65.4,65.4
75	45.80	37.39	16.15	30.72	36.76	30.45	15.32	36.70	70- 75	17.25	210.5	71.3,71.3
80	43.46	34.66	10.44	27.78	34.19	27.51	9.808	34.02	75- 80	15.93	226.4	76.7,76.7
85	40.82	31.68	5.119	24.68	31.55	24.51	4.696	31.09	80- 85	14.41	240.9	81.6,81.6
90	37.83	28.58	0.3875	21.60	28.63	21.52	0.2086	28.05	85- 90	12.78	253.6	85.9,85.9
95	35.07	23.33	0.2843	15.71	26.03	15.98	0.1956	19.72	90- 95	11.02	264.7	89.6,89.6
100	4.890	7.252	0.2847	5.264	0.1020	4.299	0.2036	5.435	95-100	5.081	269.7	91.3,91.3
105	10.69	13.44	0.2714	8.417	7.610	8.363	0.1881	13.06	100-105	2.648	272.4	92.2,92.2
110	18.78	12.29	0.2626	7.282	11.36	7.230	0.1870	12.13	105-110	4.694	277.1	93.8,93.8
115	16.80	10.98	0.2493	6.250	9.895	6.196	0.1876	10.83	110-115	4.124	281.2	95.2,95.2
120	14.89	9.736	0.2405	5.259	8.456	5.188	0.1913	9.481	115-120	3.464	284.7	96.4,96.4
125	13.13	8.509	0.2372	4.293	7.127	4.292	0.1850	8.219	120-125	2.856	287.5	97.4,97.4
130	11.45	7.308	0.2139	3.449	5.945	3.474	0.1871	7.054	125-130	2.298	289.8	98.1,98.1
135	9.861	6.153	0.1845	2.672	4.847	2.718	0.1832	5.999	130-135	1.776	291.6	98.8,98.8
140	8.312	5.129	0.1588	2.012	3.865	2.042	0.1724	4.973	135-140	1.346	292.9	99.2,99.2
145	6.850	4.105	0.1300	1.479	2.918	1.487	0.1499	4.031	140-145	0.9706	293.9	99.5,99.5
150	5.488	1.872	0.1123	0.6385	2.101	0.6366	0.1318	2.229	145-150	0.6491	294.6	99.8,99.8
155	4.274	0.6965	0.0767	0.1775	1.399	0.1597	0.0808	0.4632	150-155	0.3940	295.0	99.9,99.9
160	0.1151	1.706	0.0648	0.2979	0.0342	0.3416	0.0377	1.564	155-160	0.1698	295.1	99.9,99.9
165	1.921	1.005	0.0517	0.0917	0.3344	0.1352	0.0389	0.8698	160-165	0.0828	295.2	100,100
170	1.199	0.6040	0.0752	0.0605	0.0523	0.0521	0.0566	0.5622	165-170	0.0534	295.3	100,100
175	0.6387	0.4023	0.1211	0.0603	0.0530	0.0528	0.0615	0.4060	170-175	0.0195	295.3	100,100
180	0.0248	0.0937	0.1366	0.1057	0.0521	0.1216	0.1385	0.1394	175-180	0.0044	295.3	100,100



LUMINANCE cd/ (m2)

G (DEG)	C0/180	C90/270
85	4683	587
80	2503	601
75	1770	624
70	1397	625
65	1172	629
60	1023	632
55	916	631
50	841	628
45	782	622

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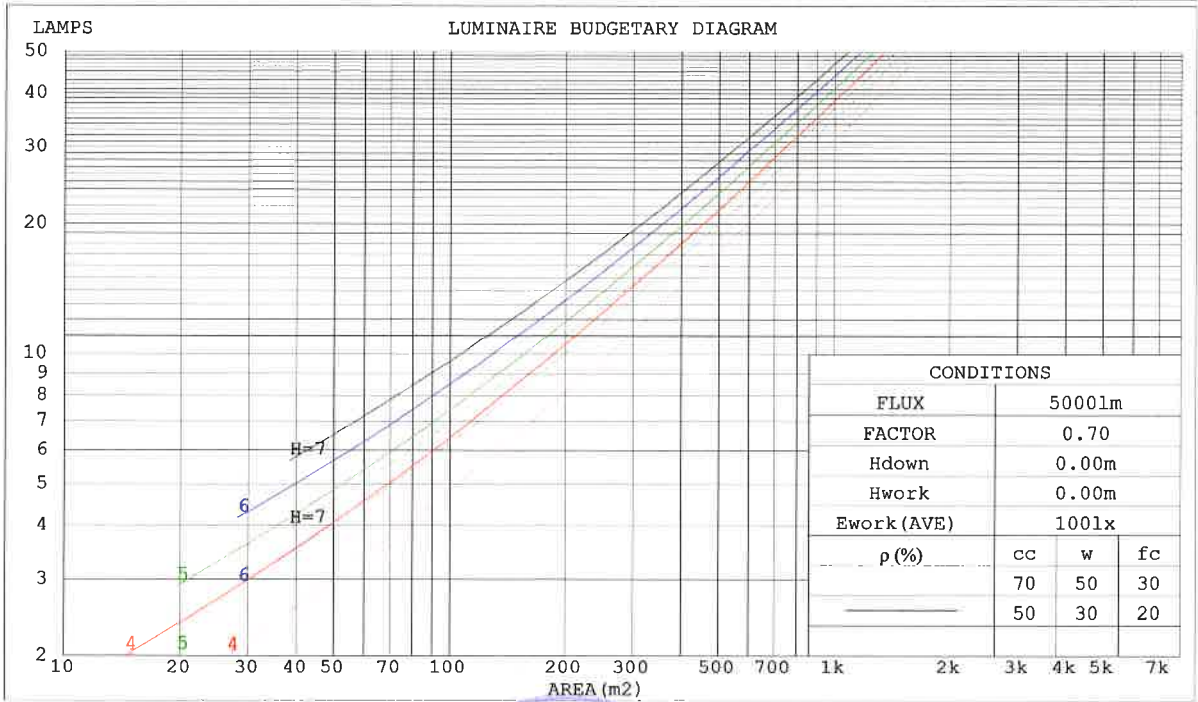
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2.7

Yeşil renk Fotometrik Deney Sonuçları (Photometric Test Results of the Green color)

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.16	1.16	1.16	1.11	1.11	1.11	1.03	1.03	1.03	.96	.96	.96	.89	.89	.89	.86
1.0	.95	.89	.84	.91	.86	.81	.84	.80	.76	.78	.74	.71	.72	.69	.67	.63
2.0	.81	.72	.65	.77	.70	.63	.71	.65	.60	.66	.61	.56	.61	.57	.53	.50
3.0	.69	.60	.52	.67	.58	.51	.62	.54	.48	.57	.51	.46	.52	.47	.43	.40
4.0	.61	.51	.43	.58	.49	.42	.54	.46	.40	.50	.43	.38	.46	.41	.36	.33
5.0	.54	.44	.37	.52	.43	.36	.48	.40	.34	.44	.38	.32	.41	.35	.31	.28
6.0	.48	.38	.31	.46	.37	.31	.43	.35	.29	.40	.33	.28	.37	.31	.27	.24
7.0	.43	.34	.27	.42	.33	.27	.39	.31	.26	.36	.29	.24	.34	.28	.23	.21
8.0	.39	.30	.24	.38	.29	.24	.35	.28	.23	.33	.26	.22	.31	.25	.21	.18
9.0	.36	.27	.21	.35	.27	.21	.32	.25	.20	.30	.24	.19	.28	.23	.18	.16
10.0	.33	.25	.19	.32	.24	.19	.30	.23	.18	.28	.22	.17	.26	.21	.17	.15



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Yeşil renk Fotometrik Deney Sonuçları (Photometric Test Results of the Green color)

WEC AND CCEC

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.415	.236	.075	.403	.230	.073	.382	.219	.070	.362	.209	.067	.343	.199	.064	
2.0	.354	.194	.059	.343	.189	.058	.324	.180	.056	.305	.171	.054	.289	.163	.051	
3.0	.311	.166	.050	.302	.162	.049	.284	.154	.047	.268	.147	.045	.252	.140	.043	
4.0	.278	.145	.043	.270	.141	.042	.254	.135	.040	.239	.128	.039	.225	.122	.037	
5.0	.252	.128	.037	.244	.125	.036	.230	.119	.035	.216	.114	.034	.203	.109	.033	
6.0	.230	.115	.033	.223	.113	.032	.210	.107	.031	.197	.102	.030	.186	.098	.029	
7.0	.211	.104	.030	.205	.102	.029	.193	.097	.028	.182	.093	.027	.171	.089	.026	
8.0	.195	.095	.027	.190	.093	.026	.179	.089	.025	.168	.085	.025	.159	.081	.024	
9.0	.182	.088	.025	.176	.086	.024	.166	.082	.023	.157	.079	.022	.148	.075	.022	
10.0	.170	.081	.023	.165	.080	.022	.156	.076	.021	.147	.073	.021	.139	.070	.020	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.298	.298	.298	.255	.255	.255	.174	.174	.174	.100	.100	.100	.032	.032	.032	
1.0	.296	.264	.234	.253	.226	.202	.173	.156	.140	.100	.090	.081	.032	.029	.026	
2.0	.290	.241	.200	.248	.207	.173	.170	.143	.120	.098	.083	.071	.031	.027	.023	
3.0	.282	.224	.178	.242	.193	.154	.166	.134	.108	.096	.078	.064	.031	.025	.021	
4.0	.274	.212	.164	.235	.183	.143	.162	.128	.100	.094	.075	.059	.030	.024	.020	
5.0	.266	.202	.155	.229	.175	.134	.158	.122	.095	.091	.072	.056	.029	.023	.019	
6.0	.259	.194	.148	.222	.168	.129	.153	.118	.091	.089	.069	.054	.029	.023	.018	
7.0	.251	.187	.143	.216	.162	.124	.149	.114	.088	.087	.067	.052	.028	.022	.017	
8.0	.244	.182	.139	.210	.158	.121	.146	.111	.086	.085	.065	.051	.027	.021	.017	
9.0	.238	.177	.136	.205	.154	.119	.142	.108	.084	.083	.064	.050	.027	.021	.017	
10.0	.232	.173	.133	.200	.150	.116	.139	.106	.083	.081	.062	.049	.026	.020	.016	



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2.7

Yeşil renk Fotometrik Deney Sonuçları (Photometric Test Results of the Green color)

Uncorrected UGR Table

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions	Viewed crosswise					Viewed endwise					
x = 2H y = 2H	12.4	13.8	12.8	14.3	14.8	10.4	11.9	10.9	12.4	12.9	
3H	15.3	16.7	15.8	17.2	17.7	12.2	13.6	12.7	14.1	14.6	
4H	17.0	18.3	17.5	18.8	19.3	13.0	14.3	13.5	14.8	15.4	
6H	18.8	20.0	19.3	20.6	21.1	13.6	14.9	14.2	15.4	16.0	
8H	19.8	21.0	20.3	21.5	22.1	13.9	15.1	14.4	15.6	16.2	
12H	20.9	22.1	21.5	22.6	23.2	14.0	15.2	14.6	15.7	16.3	
4H	2H	13.1	14.4	13.6	14.9	15.5	11.8	13.1	12.3	13.6	14.1
3H	16.3	17.4	16.8	18.0	18.6	13.9	15.0	14.4	15.6	16.2	
4H	18.1	19.2	18.7	19.8	20.4	14.9	15.9	15.5	16.5	17.2	
6H	20.1	21.1	20.7	21.7	22.4	15.7	16.7	16.3	17.3	17.9	
8H	21.3	22.2	21.9	22.8	23.5	16.0	16.9	16.7	17.6	18.2	
12H	22.5	23.4	23.2	24.0	24.7	16.3	17.1	16.9	17.8	18.5	
8H	4H	18.6	19.5	19.2	20.1	20.8	16.1	17.0	16.7	17.6	18.3
6H	20.9	21.7	21.6	22.3	23.1	17.4	18.2	18.1	18.8	19.6	
8H	22.3	23.0	22.9	23.6	24.4	18.0	18.7	18.7	19.4	20.1	
12H	23.8	24.4	24.5	25.1	25.8	18.5	19.1	19.2	19.8	20.6	
12H	4H	18.6	19.5	19.3	20.1	20.8	16.5	17.4	17.2	18.0	18.7
6H	21.1	21.8	21.8	22.5	23.2	18.1	18.8	18.8	19.4	20.2	
8H	22.6	23.2	23.2	23.8	24.6	18.9	19.5	19.6	20.2	21.0	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.2					
2.0H	+ 0.3 / - 0.4					+ 0.2 / - 0.4					

CIE Pub.117 Corrected 295.3 lm Total Lamp Luminous Flux. (8log(F/F0) = -4.2)



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Yeşil renk Fotometrik Deney Sonuçları (Photometric Test Results of the Green color)**UTILIZATION FACTORS TABLE**

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	47	34	27	46	34	27	44	33	26	19
0.80	56	43	34	55	42	34	52	41	33	25
1.00	64	51	42	62	50	41	59	51	40	32
1.25	71	58	49	69	57	48	65	54	47	37
1.50	76	63	54	73	62	54	69	59	52	41
2.00	83	72	63	81	70	62	75	66	60	48
2.50	88	77	69	85	75	68	79	71	65	52
3.00	92	82	74	89	80	73	82	75	69	56
4.00	97	88	82	93	86	79	86	80	75	62
5.00	100	93	86	96	90	84	89	84	79	65
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			



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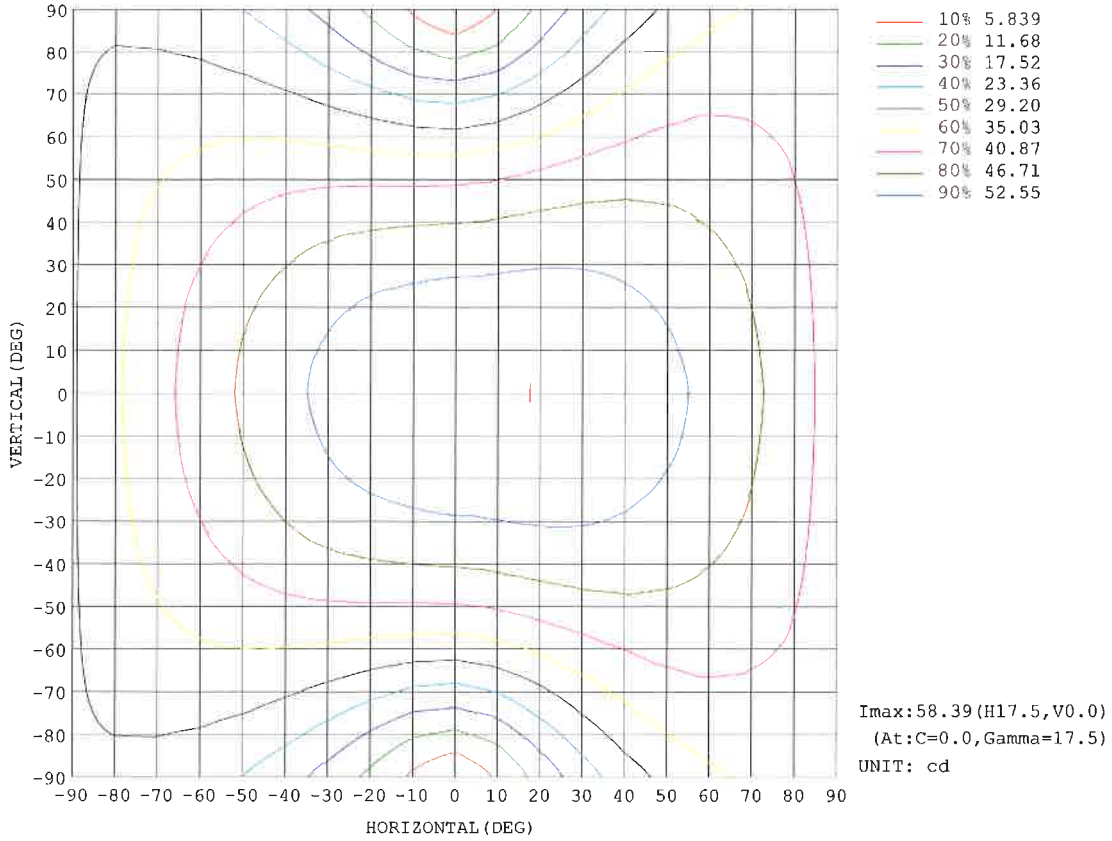
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2.7

Yeşil renk Fotometrik Denev Sonuřları (Photometric Test Results of the Green color)

ISOCANDELA DIAGRAM



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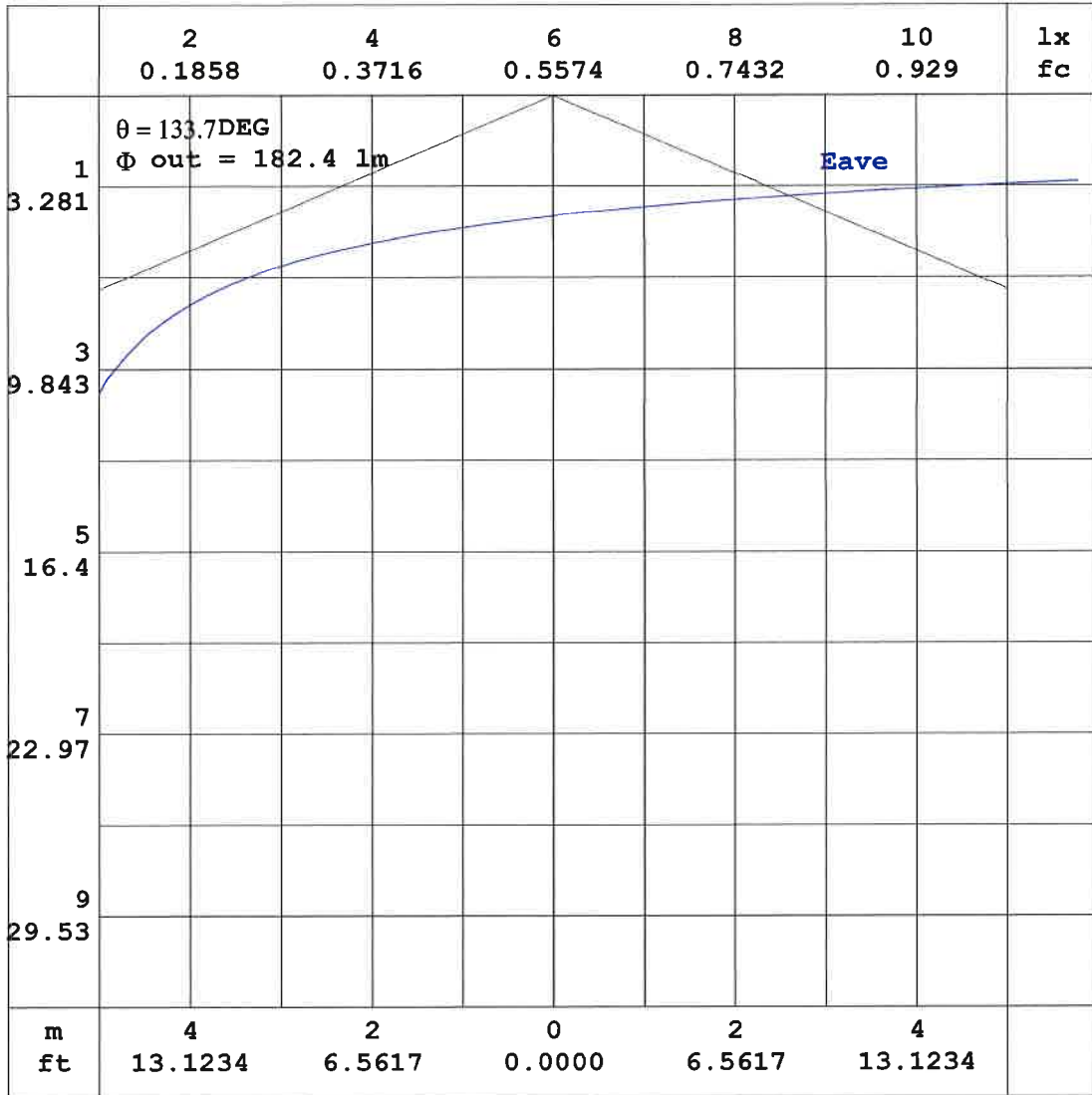
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2.7 Yeşil renk Fotometrik Deney Sonuçları (Photometric Test Results of the Green color)**AAI CURVES**

Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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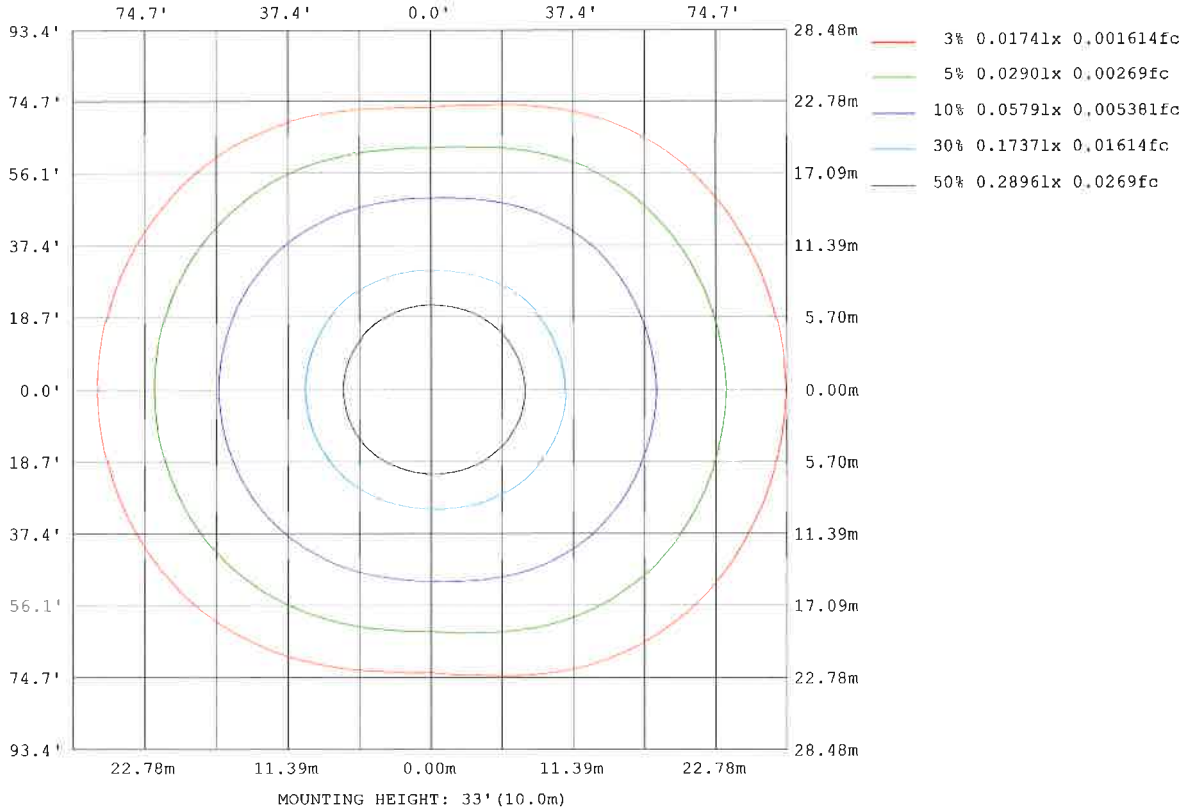
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2.7 Yeşil renk Fotometrik Deney Sonuçları (Photometric Test Results of the Green color)

ISOLUX DIAGRAM



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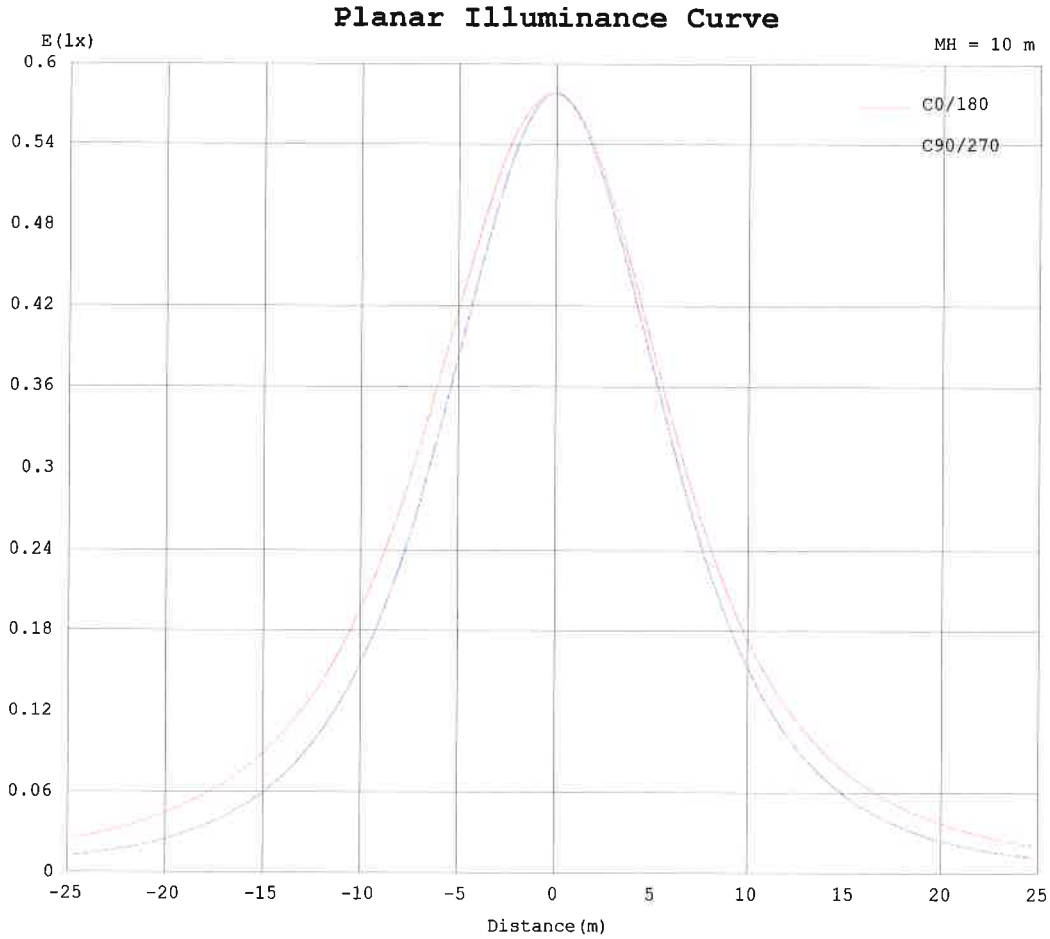
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2.7 Yeşil renk Fotometrik Deney Sonuçları (Photometric Test Results of the Green color)



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MEASUREMENT REPORT**2.8 Yeşil Renk Spektrokolorimetrik Deney Sonuçları (Spectrocolorimetric Test Results of the Green color)****Elektriksel Ölçümler**
(Electrical Measurements)

Ölçülen Güç (W) (Input Power)	12,79
Ölçülen Gerilim (V) (Input Voltage)	48 VDC
Ölçülen Akım (A) (Input Current)	0,2665
Güç Faktörü (PF) (Power Factor)	-
Ölçülen Frekans (Hz) (Input Frequency)	-
Ortam Sıcaklığı / Bağıl Nem (Ambient Temperature / Relative Humidity)	25,1 °C 48% Rh
Stabilizasyon Süresi (Stabilization Time)	60 dk ±5dk

Spektrokolorimetrik Ölçüm Sonuçları
(Spectrocolorimetric Measurement Results)

Chrom x	0,1950
Chrom y	0,7188
Duv	0,1498
Chrom u'	0,0694
Chrom v'	0,5758
Peak	523 nm
Dominant	531 nm
CCT	7448 K
Nominal CCT	-
Ra(CRI)	0
R9	0
S/P Ratio	2,5
Preburning time	1 hr
Test Configuration	4π



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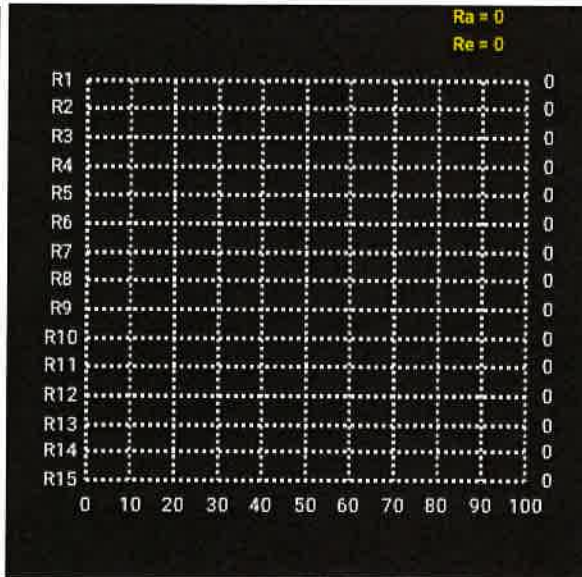
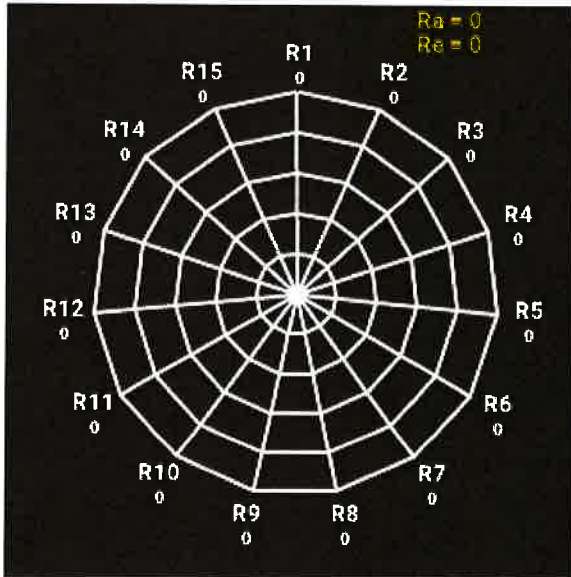
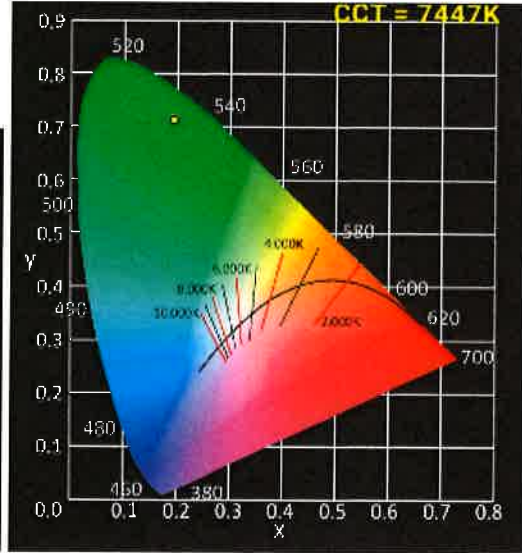
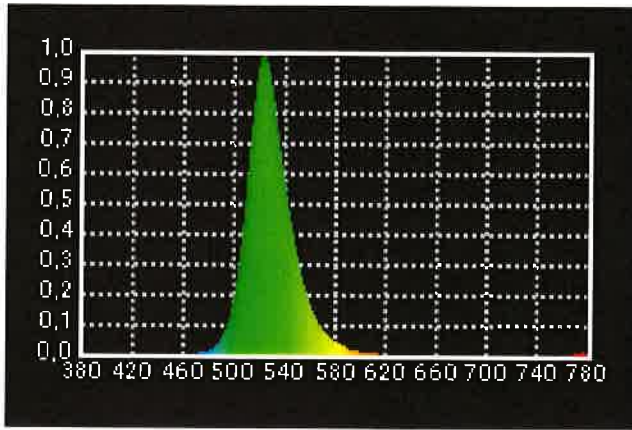
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2.8

Yeşil Renk Spektrokolorimetrik Deney Sonuçları (Spectrocolorimetric Test Results of the Green color)



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3.1 DGC'nin Fotoğrafları (Photos of EUT)

