PTC
ÜRÜN TEST VE BELGELENDİRME SAN. TİC. LTD. ŞTİ

DENEY RAPORU
TEST REPORT

Müşteri Adı / Adresi: *Customer name / address*	HERA EĞLENCE VE MİMARİ AYDINLATMA SİSTEMLERİ A.Ş. *Güllübağlar Mah. Kahramanlar Cad. No:3-1 34906 Pendik / İstanbul / TURKEY*
Rapor ve İstek No: *Report and order no:*	2019-PTC-4537-1
Numunenin Adı ve Tarifi: *Name and identity of test item:*	P02026102 Leoline M6 615mm DMX RGBW Linear Medium Beam 25°
Numune Kabul Tarihi: *The date of receipt of test item:*	17.09.2019
Deneyin Yapıldığı Tarih: *Date of test:*	20.09.2019 – 14.10.2019
Rapor Sayfa Sayısı: *Number of pages of the report:*	21
Uygulanan Standart / Metod: *Applied Standart / Method*	IES-LM-79-08 (with TS EN13032-1)
Açıklamalar: *Remarks:*	**Test sonuçları için raporu inceleyiniz.** / *Review the report for test results.*

Mühür / Tarih *Seal / Date*	**Deneyi Yapan Personel** *Person in Performing the Test*	**Laboratuvar Teknik Yöneticisi** *Laboratory Technical Manager*
24.10.2019	Muhammed Emin COŞKUN	Murat ÇİTİL

ÜRÜN TEST VE BELGELENDİRME LTD. ŞTİ. PRODUCT TESTING AND CERTIFICATION

Vergi No Task Number 733 043 5931

ACCREDITED TEST LABORATORY

Bu rapor, Laboratuvarımızın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
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FOTOMETRİK ÖLÇÜM SONUÇLARI / *PHOTOMETRIC MEAUSEREMENT RESULTS*

Kullanılan Cihaz/EquipmentUsed.....:	Goniophotometer System (LSG-1700B) Sphere System (LMS-7000)
Uygulanan Standart-Metot/Applied Standard-Method.....:	IES-LM-79-08 Electrical and Photometric Measurements of Solid-State Lighting Products TS EN13032-1:2004 +A1:2012LightandLighting – Measurementand Presentation of Photometric Data of Lampsand Luminaires-Part1: Measurementand File.
Deney Ortam Şartları/ExperimentalAmbientConditions.....:	25°C ±5°C,60%RH±5%RH
Armatüre Uygulanan Gerilim / AppliedVoltage.....:	48 V DC
ArmatürMarkası-Üretici/LuminaireBrand-Producer.....:	Hera LED
ArmatürKodu-Modeli/LuminaireCode-Model.....:	P02026102 Leoline M6 615mm DMX RGBW Linear Medium Beam 25°

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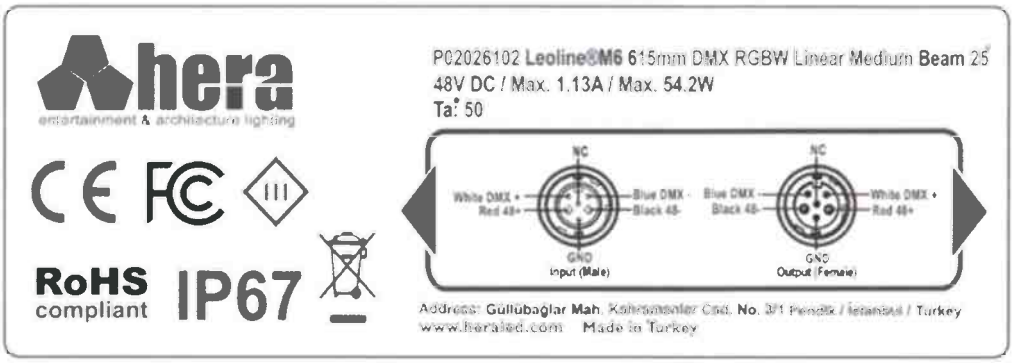
Etiket plakasının kopyası / *Copy of marking plate*:



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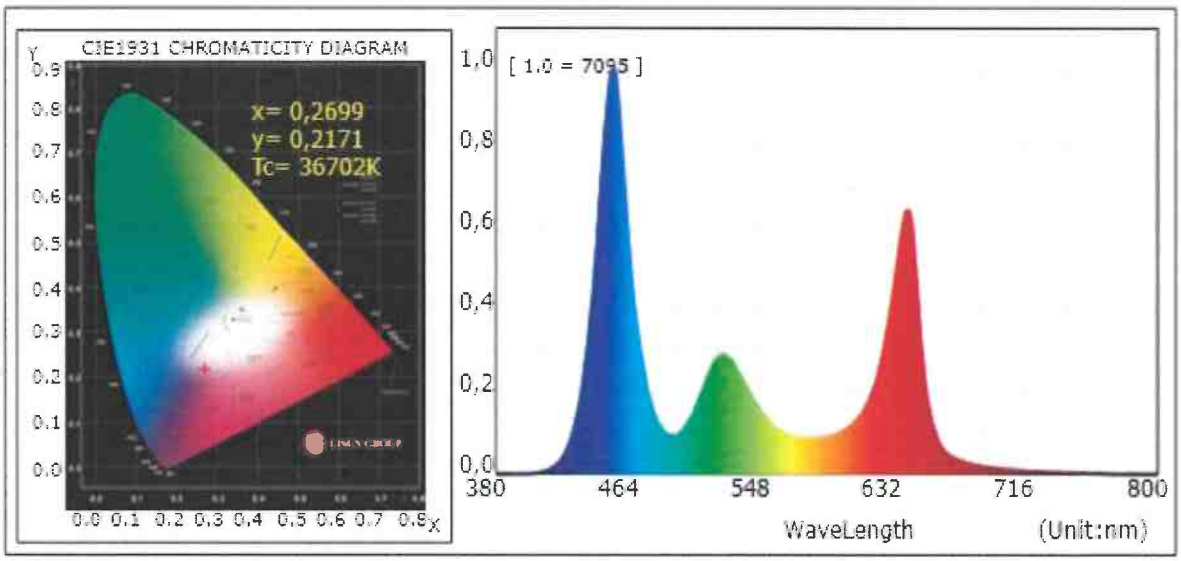
Armatürde Ölçülen Toplam Güç/Measured Total Power of Luminaire.....:	52,8 W ; 0,891pf
Armatürün Ölçülen Işık Akısı /MeasuredLuminousFlux of Luminaire.....:	1982,9 lm(Effective Value)
Armatür verimliliği (lm/Watt) / Luminous efficiancy.....:	37,55 lm/Watt
Beam Angle(C0/C180,C90/C270,C45/C225,C135/315):	25.5, 25.9, 25.8, 26.3



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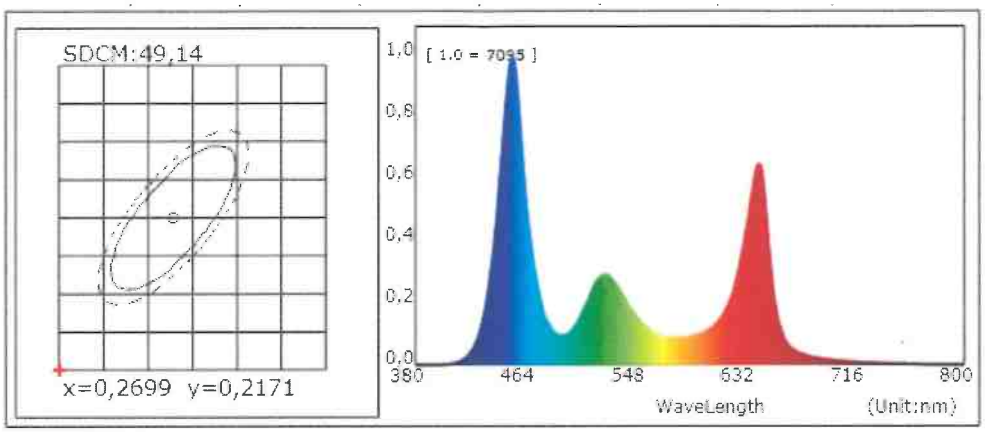

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Date/Time	01.10.2019 16.26
Radiant Flux (Watts)	9,323
Luminous Flux (lumens)	1861,70
Chromaticity x coord	0,2699
Chromaticity y coord	0,2171
Chromaticity u coord	0,2132
Chromaticity v coord	0,2571
Chromaticity u' coord	0,2132
Chromaticity v' coord	0,3857
Peak Wavelength (nm)	454,0
Half Wavelength (nm)	24
Dominant Wavelength (nm)	446,6
Color Purity (%)	36,523
Correlated Color Temperature (deg. K)	36702
SDCM	49,14
Color Rendering Index Average (RA)	44,0
Color Rendering Index (R1)	22,6
Color Rendering Index (R2)	61,5
Color Rendering Index (R3)	68,7
Color Rendering Index (R4)	34,8
Color Rendering Index (R5)	42,0
Color Rendering Index (R6)	66,9
Color Rendering Index (R7)	67,2
Color Rendering Index (R8)	-11,7
Color Rendering Index (R9)	-247,1
Color Rendering Index (R10)	28,0
Color Rendering Index (R11)	20,6
Color Rendering Index (R12)	57,0
Color Rendering Index (R13)	28,9
Color Rendering Index (R14)	76,3

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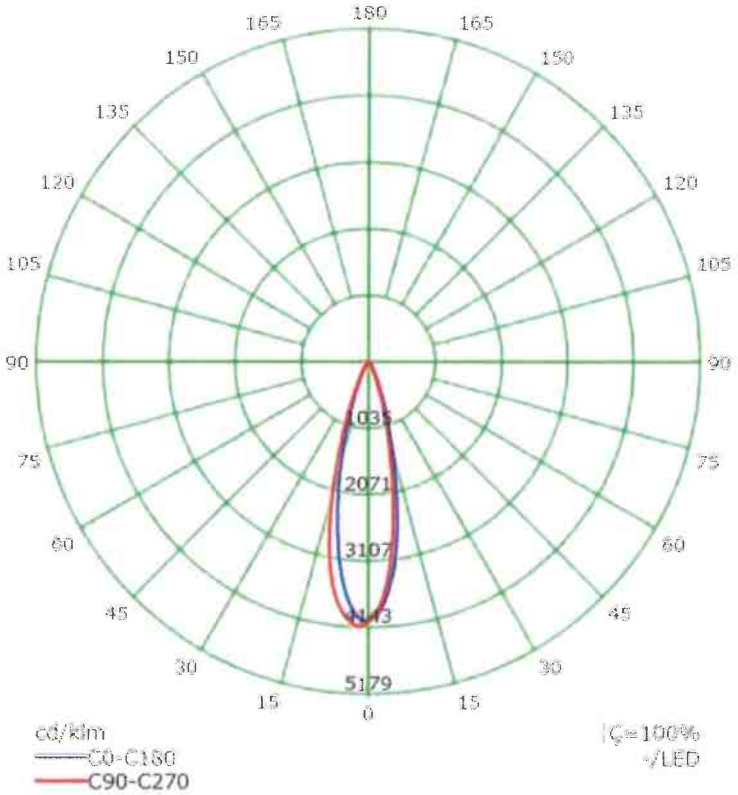
Luminous Intensity Distribution Curve(cd/klm)



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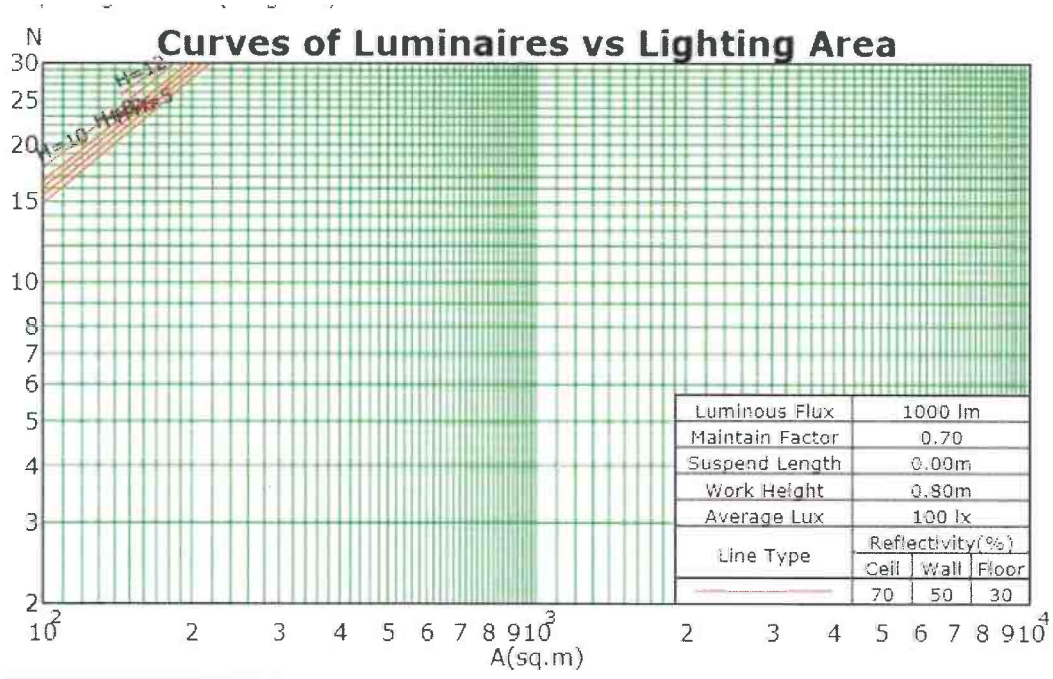
Coefficients Of Utilization - Zonal Cavity Method

RC	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.1	0.1	0.1	0
RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
RCR	RF = 0.2																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	107	104	101	109	105	103	100	102	100	98	99	98	96	97	95	94	93
3	107	102	98	95	105	101	97	95	98	96	93	96	94	92	94	92	90	89
4	104	98	94	91	102	97	93	90	95	92	89	93	90	88	91	89	87	86
5	100	94	90	87	99	93	89	86	92	88	85	90	87	85	89	86	84	83
6	97	91	86	83	96	90	86	83	89	85	82	87	84	82	86	83	81	80
7	94	87	83	80	93	87	83	80	86	82	79	85	81	79	84	81	79	78
8	91	84	80	77	90	84	80	77	83	79	77	82	79	76	81	78	76	75
9	89	82	78	75	88	81	77	75	81	77	74	80	76	74	79	76	74	73
10	86	79	75	72	86	79	75	72	78	75	72	78	74	72	77	74	72	71

Spacing Criteria (0-180): 0.43
Spacing Criteria (90-270): 0.45
Spacing Criteria (Diagonal): 0.44



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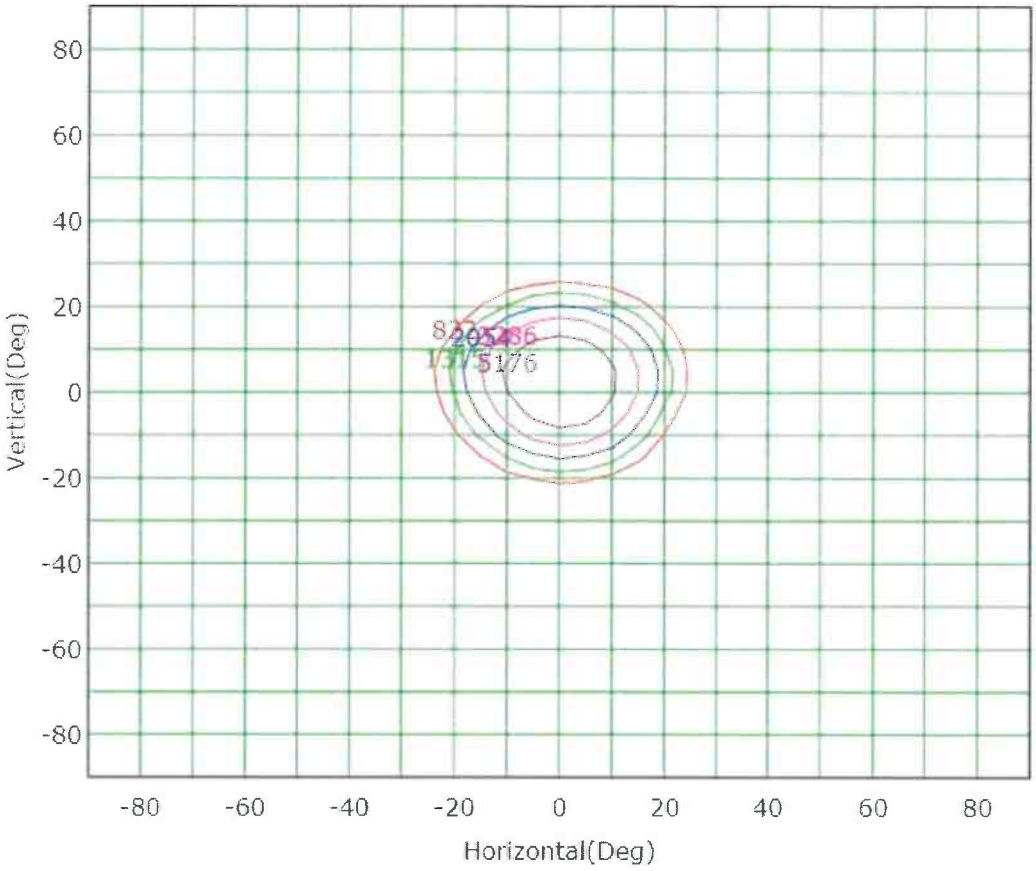

Imax (100%): 8216 cd

(10%): 822 cd
(16%): 1315 cd
(25%): 2054 cd
(40%): 3286 cd
(63%): 5176 cd
(100%): 8216 cd

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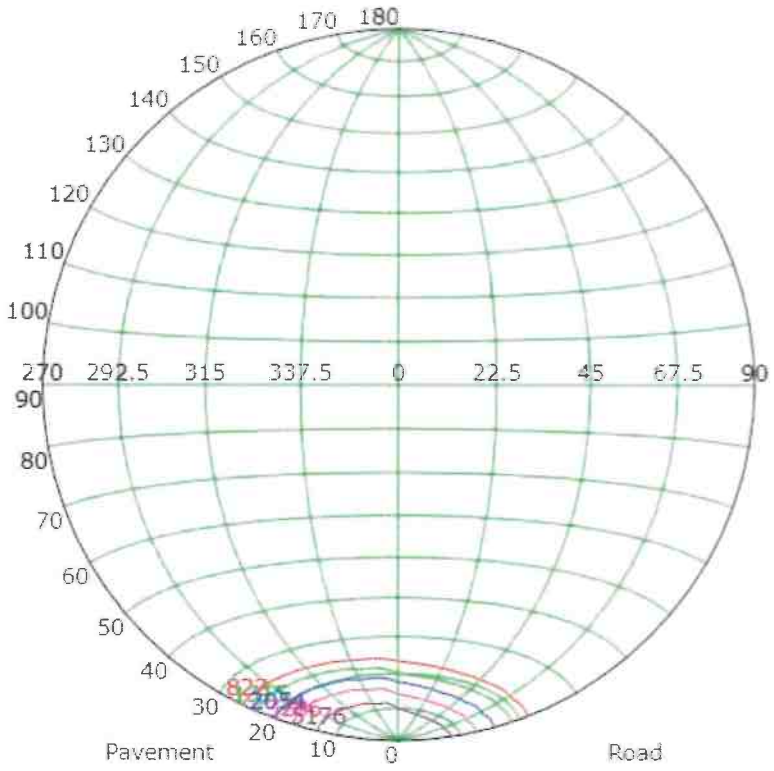
Isocandela (sphere)



Imax (100%): 8216 cd

(10%): 822 cd	(16%): 1315 cd
(25%): 2054 cd	(40%): 3286 cd
(63%): 5176 cd	(100%): 8216 cd

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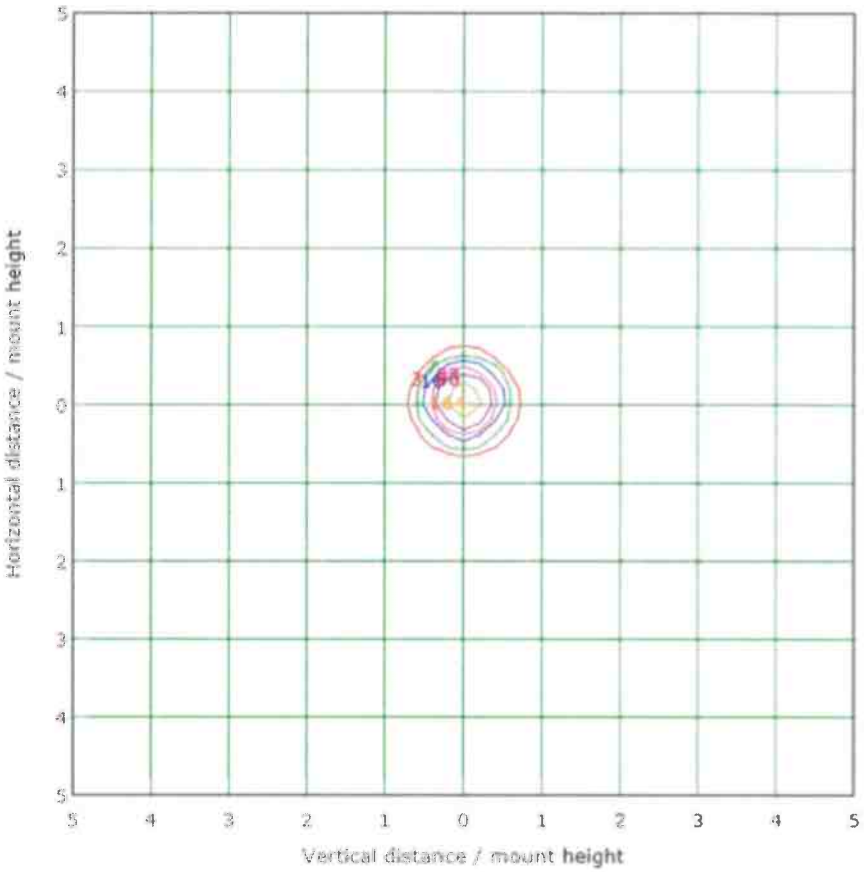
IsoLux Plot

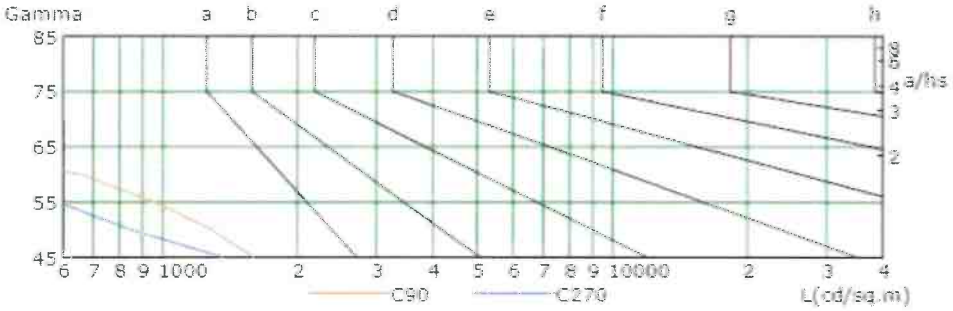


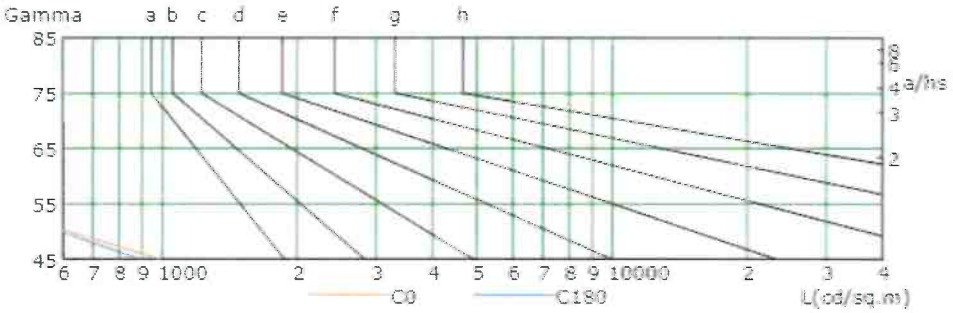
Mounting Height: 5.0m Max Lux(100%): 328.3 lx

(1%): 3.3 lx
(2%): 6.6 lx
(5%): 16.4 lx
(10%): 32.8 lx
(20%): 65.7 lx
(50%): 164.2 lx
(100%): 328.3 lx

Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h





L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	979	614	339	146	36	0	0	0	0
C90	1594	1278	955	655	287	0	0	0	0
C180	886	592	328	154	16	0	0	0	0
C270	1358	848	586	449	297	0	0	0	0

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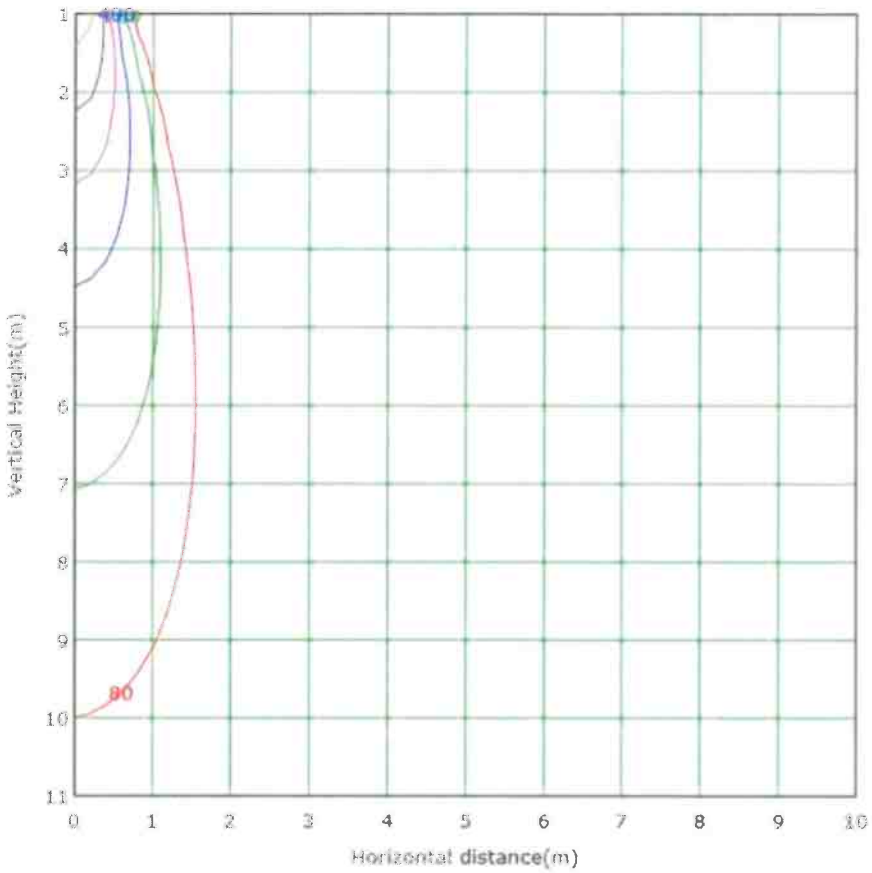
Vertical IsoLux Plot



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UGR Table

Reflectance:										
Ceiling (cavity)	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	3.4	4.0	3.7	4.2	4.4	4.2	4.9	4.5	5.1	5.3
3H	3.3	3.9	3.6	4.1	4.3	4.1	4.7	4.4	4.9	5.2
4H	3.2	3.8	3.5	4.0	4.3	4.0	4.6	4.3	4.8	5.1
6H	3.1	3.6	3.5	3.9	4.2	4.0	4.5	4.3	4.8	5.0
8H	3.1	3.6	3.4	3.9	4.2	3.9	4.4	4.3	4.7	5.0
12H	3.1	3.5	3.4	3.8	4.1	3.9	4.4	4.2	4.7	5.0
X=4H Y=2H	3.3	3.8	3.6	4.1	4.4	4.1	4.7	4.4	4.9	5.2
3H	3.2	3.6	3.5	3.9	4.2	4.0	4.4	4.3	4.7	5.1
4H	3.1	3.5	3.4	3.8	4.2	3.9	4.3	4.3	4.6	5.0
6H	3.0	3.4	3.4	3.7	4.1	3.8	4.2	4.2	4.5	4.9
8H	2.9	3.3	3.4	3.7	4.1	3.8	4.1	4.2	4.5	4.9
12H	2.9	3.2	3.3	3.6	4.0	3.7	4.0	4.1	4.4	4.8
X=8H Y=4H	2.9	3.3	3.4	3.7	4.1	3.8	4.1	4.2	4.5	4.9
6H	2.8	3.1	3.3	3.5	4.0	3.7	3.9	4.1	4.4	4.8
8H	2.8	3.0	3.3	3.5	3.9	3.6	3.8	4.1	4.3	4.8
12H	2.7	2.9	3.2	3.4	3.9	3.6	3.8	4.0	4.2	4.7
X=12H Y=4H	2.9	3.2	3.3	3.6	4.0	3.7	4.0	4.1	4.4	4.8
6H	2.8	3.0	3.3	3.5	3.9	3.6	3.8	4.1	4.3	4.8
8H	2.7	2.9	3.2	3.4	3.9	3.6	3.8	4.0	4.2	4.7
Variations with the observer position at spacings:										
S=1.0H	+2.9/-5.0					+4.5/-6.2				
S=1.5H	+5.3/-11.4					+7.1/-11.8				
S=2.0H	+7.4/-40.6					+8.9/-42.1				

Calculate in accordance with CIE Pub.117. The table is revised with 1983lm (Blog(F/F0) = 2.4).

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Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NON = 0.50								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.94	0.99	1.02	1.05	1.08	1.10	1.12	1.13	1.15
	0.30		0.90	0.95	0.99	1.01	1.05	1.07	1.09	1.11	1.13
	0.20		0.87	0.92	0.96	0.99	1.03	1.05	1.07	1.10	1.12
0.50	0.50	0.20	0.93	0.97	1.00	1.02	1.05	1.07	1.08	1.10	1.11
	0.30		0.89	0.94	0.97	1.00	1.03	1.05	1.06	1.08	1.09
	0.20		0.87	0.92	0.95	0.97	1.01	1.03	1.05	1.07	1.08
0.30	0.50	0.20	0.92	0.96	0.98	1.00	1.03	1.04	1.05	1.06	1.07
	0.30		0.89	0.93	0.96	0.98	1.01	1.02	1.03	1.05	1.06
	0.20		0.86	0.91	0.94	0.96	0.99	1.01	1.02	1.04	1.05
0.00	0.00	0.00	0.85	0.89	0.92	0.94	0.98	0.97	0.98	0.99	1.00

Rating:67W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1960

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Utilisation Factor Table(Wall)

Utilisation Factors UF(W)			SHR NOM = 0.50								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.49	0.39	0.33	0.29	0.23	0.19	0.16	0.12	0.10
	0.30		0.41	0.34	0.29	0.25	0.21	0.17	0.15	0.12	0.10
	0.20		0.35	0.29	0.26	0.23	0.19	0.16	0.14	0.11	0.09
0.50	0.50	0.20	0.46	0.37	0.31	0.27	0.21	0.22	0.15	0.11	0.09
	0.30		0.39	0.32	0.27	0.24	0.19	0.16	0.14	0.11	0.09
	0.20		0.34	0.28	0.24	0.22	0.18	0.15	0.13	0.10	0.08
0.30	0.50	0.20	0.44	0.35	0.29	0.25	0.19	0.16	0.13	0.10	0.08
	0.30		0.38	0.30	0.26	0.22	0.18	0.15	0.12	0.10	0.08
	0.20		0.33	0.27	0.23	0.20	0.16	0.14	0.12	0.09	0.08
0.00	0.00	0.00	0.18	0.14	0.11	0.10	0.07	0.06	0.05	0.04	0.03

Rating:67W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

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Utilisation Factor Table(Ceiling cavity)

Utilisation Factors UF(C)			SHR NOM = 0.50								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.12	0.14	0.15	0.16	0.18	0.19	0.20	0.21	0.21
	0.30		0.09	0.11	0.12	0.14	0.16	0.17	0.18	0.19	0.20
	0.20		0.06	0.08	0.10	0.12	0.14	0.15	0.16	0.18	0.19
0.50	0.50	0.20	0.12	0.13	0.15	0.16	0.17	0.18	0.19	0.20	0.20
	0.30		0.09	0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19
	0.20		0.06	0.08	0.10	0.11	0.13	0.15	0.16	0.17	0.18
0.30	0.50	0.20	0.11	0.12	0.14	0.15	0.17	0.17	0.18	0.19	0.19
	0.30		0.09	0.10	0.12	0.13	0.15	0.16	0.17	0.18	0.19
	0.20		0.06	0.08	0.10	0.11	0.13	0.14	0.15	0.17	0.18
0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA

Rating:67W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1990

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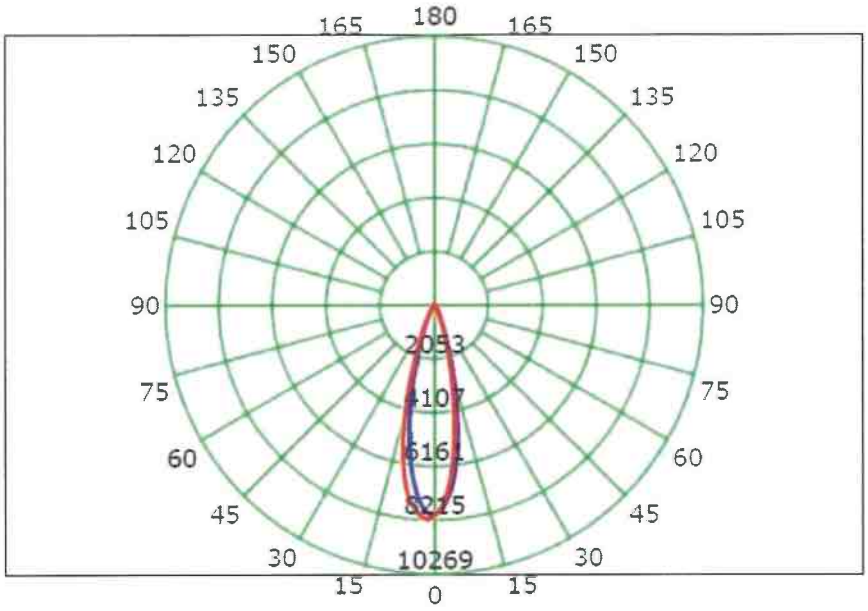
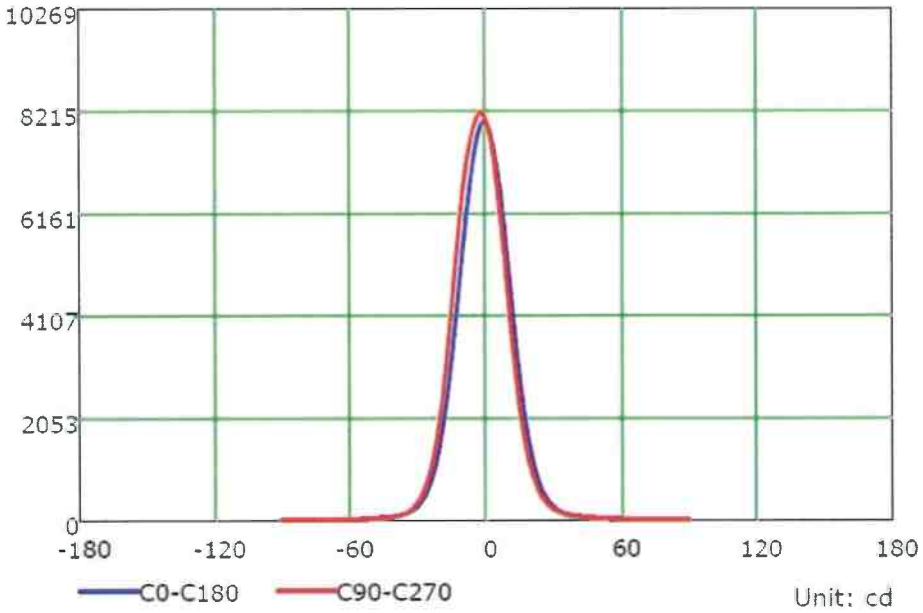
Luminous Intensity Distribution Curve





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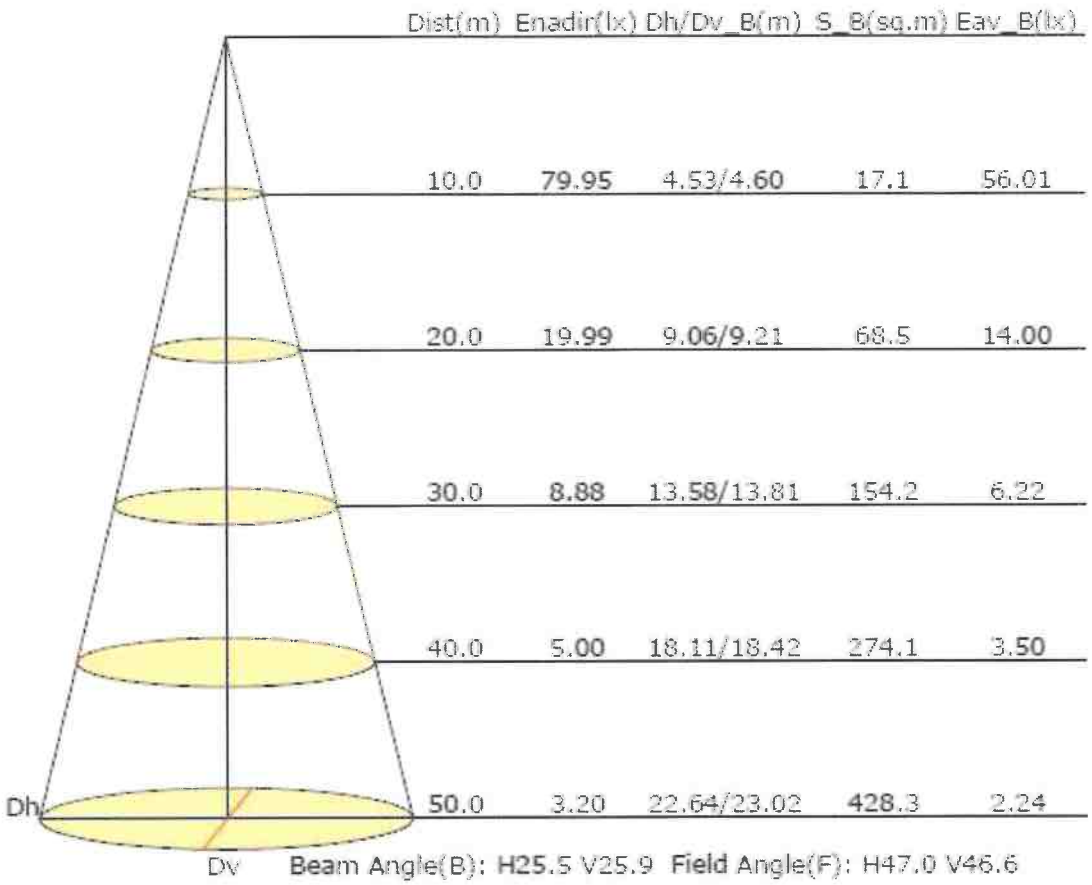
Illuminance at a Distance



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Görsel Dökümanlar / *Photo Documentation*

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