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:*	171801-864-23
Numunenin Adı ve Tarifi: *Name and identity of test item:*	Procolor DC 60DW Floodlight Wide Beam 35° P03002123
Numune Kabul Tarihi: *The date of receipt of test item:*	03.01.2020
Deneyin Yapıldığı Tarih: *Date of test:*	08.01.2020
Rapor Sayfa Sayısı: *Number of pages of the report:*	20
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*
15.01.2020	Emine Nur ÇİDEM	Murat ÇİTİL

ÜRÜN TEST VE BELGELENDİRME LTD. ŞTİ. PRODUCT TESTING AND CERTIFICATION
ONAY APPROVED
Vergi No Task Number 733 043 5931

Bu rapor, Laboratuvarımızın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
This report may not be copied or reproduced in part without the written permission of the Laboratory. Signed and unsealed reports are invalid

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

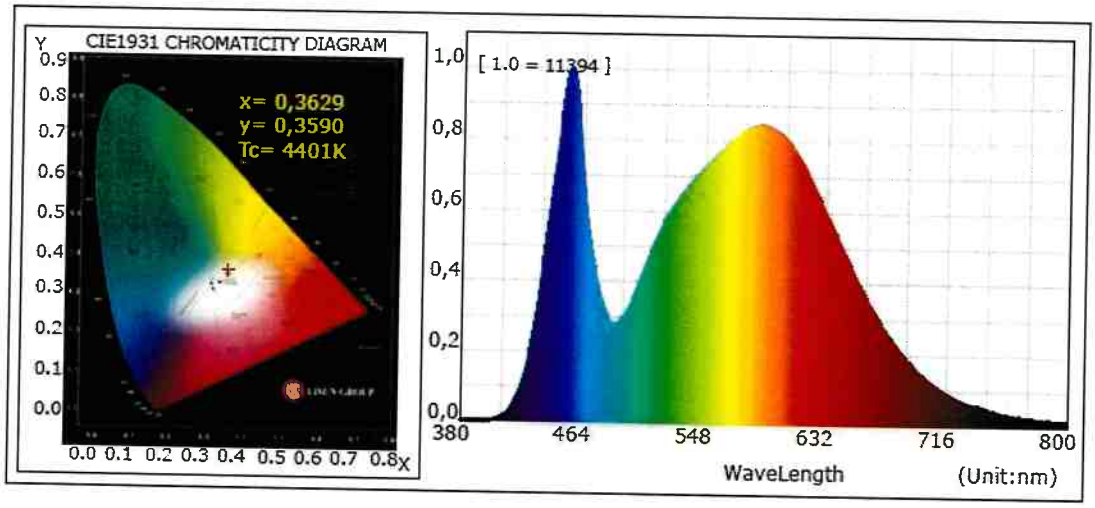
FOTOMETRİK ÖLÇÜM SONUÇLARI / *PHOTOMETRIC MEAUSEREMENT RESULTS*

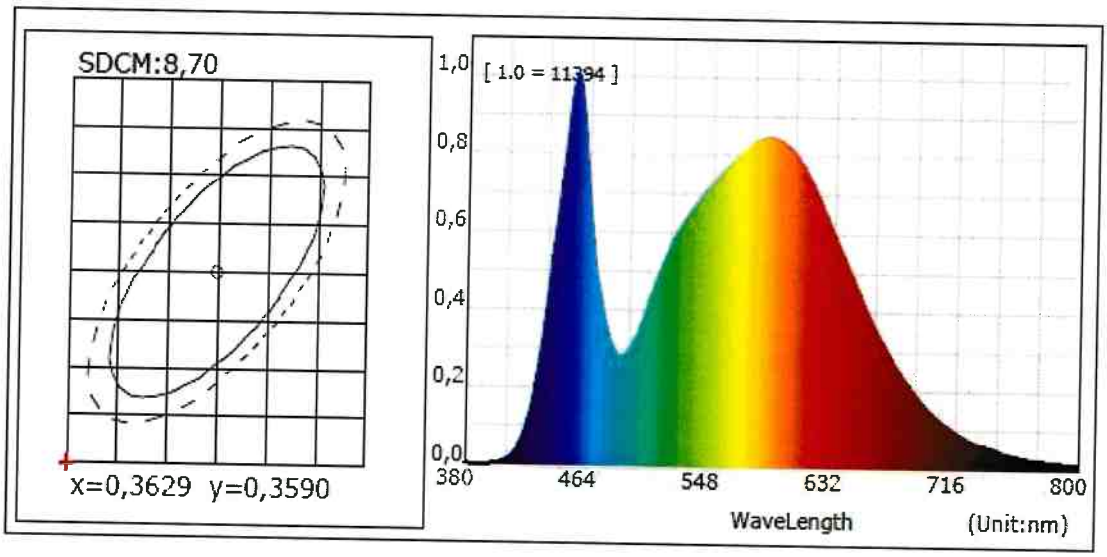
Kullanılan Cihaz/EquipmentUsed.....:	Goniophotometer System (LSG-1700B) Sphere System (LMS-7000)
Uygulanan Standart-Metot/Applied Standard-Method.....:	IES-LM-79-08 Electrical and Photometric Measurements of Solid-State Lighting Products TS EN13032-1:2004 +A1:2012LightandLighting – Measurementand Presentation of Photometric Data of Lampsand Luminaires-Part1: Measurementand File.
Deney Ortam Şartları/ExperimentalAmbientConditions.....:	25°C ±1°C,60%RH±5%RH
Armatüre Uygulanan Gerilim / AppliedVoltage.....:	48 V dc
ArmatürMarkası-Üretici/LuminaireBrand-Producer.....:	HERA EĞLENCE VE MİMARİ AYDINLATMA SİSTEMLERİ A.Ş.
ArmatürKodu-Modeli/LuminaireCode-Model.....:	Procolor DC 60DW Floodlight Wide Beam 35° P03002123

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Armatürde Ölçülen Toplam Güç / Measured Total Power of Luminaire.....:	40.32 W ;
Armatürün Ölçülen Işık Akısı / Measured Luminous Flux of Luminaire.....:	2040.1 lm(Effective Value)
Armatür verimliliği (lm/Watt) / Luminous efficiancy.....:	50.59 lm/Watt
Beam Angle(C0/C180,C90/C270,C45/C225,C135/315):	33.2, 33.2,33.2,33.2

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com



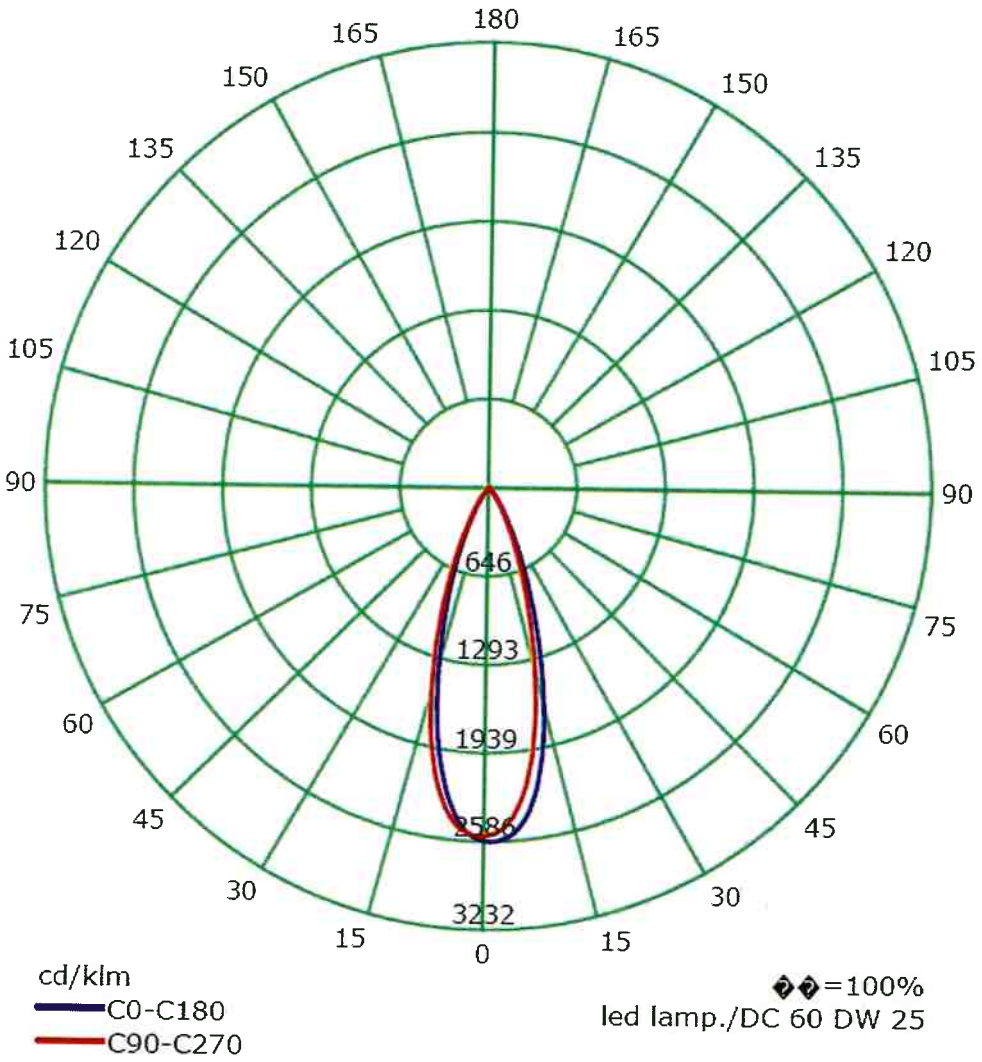


PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Date/Time	08.01.2020 16:00
Chromaticity x coord	0,3629
Chromaticity y coord	0,3590
Chromaticity u coord	0,2205
Chromaticity v coord	0,3273
Chromaticity u' coord	0,2205
Chromaticity v' coord	0,4909
Peak Wavelength (nm)	454,6
Half Wavelength (nm)	32,0
Dominant Wavelength (nm)	579,8
Color Purity (%)	16,637
Correlated Color Temperature (deg. K)	4401
SDCM	8,70
Color Rendering Index Average (RA)	82,0
Color Rendering Index (R1)	81
Color Rendering Index (R2)	88
Color Rendering Index (R3)	92
Color Rendering Index (R4)	80
Color Rendering Index (R5)	80
Color Rendering Index (R6)	82
Color Rendering Index (R7)	86
Color Rendering Index (R8)	67
Color Rendering Index (R9)	12
Color Rendering Index (R10)	70
Color Rendering Index (R11)	77
Color Rendering Index (R12)	59
Color Rendering Index (R13)	83
Color Rendering Index (R14)	95
Color Rendering Index (R15)	77

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Luminous Intensity Distribution Curve(cd/klm)



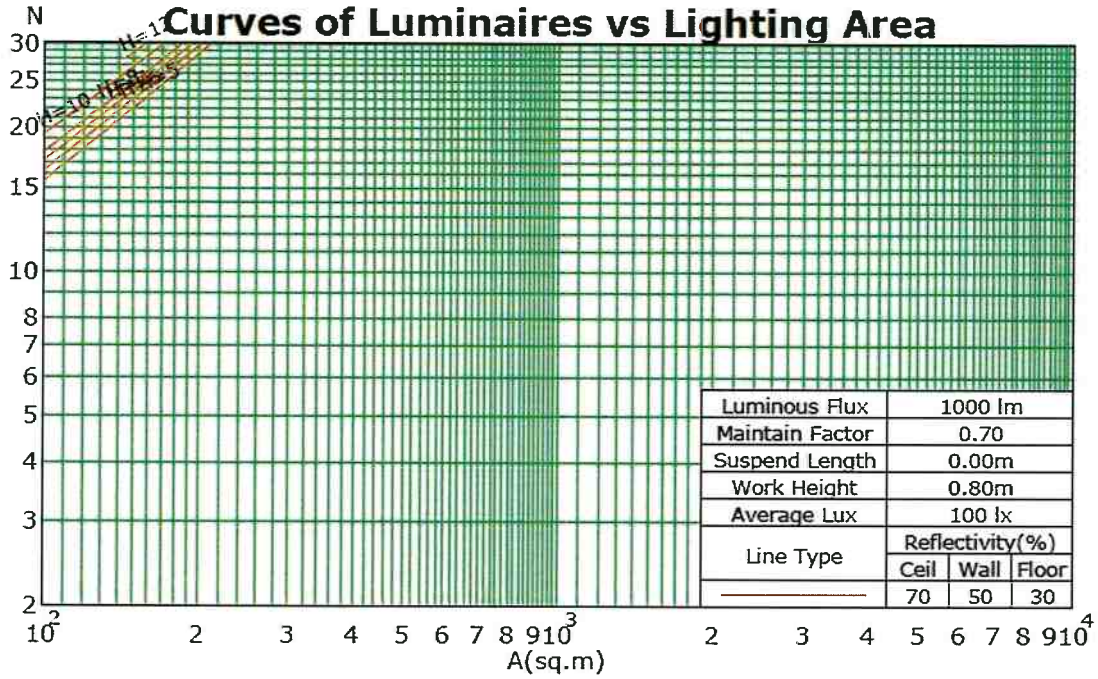
PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	102	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90
3	105	100	96	92	103	99	95	92	96	93	90	94	91	89	91	89	87	86
4	101	95	90	87	99	94	89	86	92	88	85	90	87	84	88	85	83	82
5	97	90	85	82	96	89	85	81	88	84	81	86	83	80	85	82	79	78
6	93	86	81	77	92	85	81	77	84	80	77	83	79	76	81	78	76	74
7	90	82	77	74	89	82	77	74	80	76	73	79	76	73	78	75	72	71
8	87	79	74	70	86	78	74	70	77	73	70	76	73	70	75	72	69	68
9	84	76	71	67	83	75	71	67	74	70	67	74	70	67	73	69	67	66
10	81	73	68	65	80	72	68	65	72	67	64	71	67	64	70	67	64	63

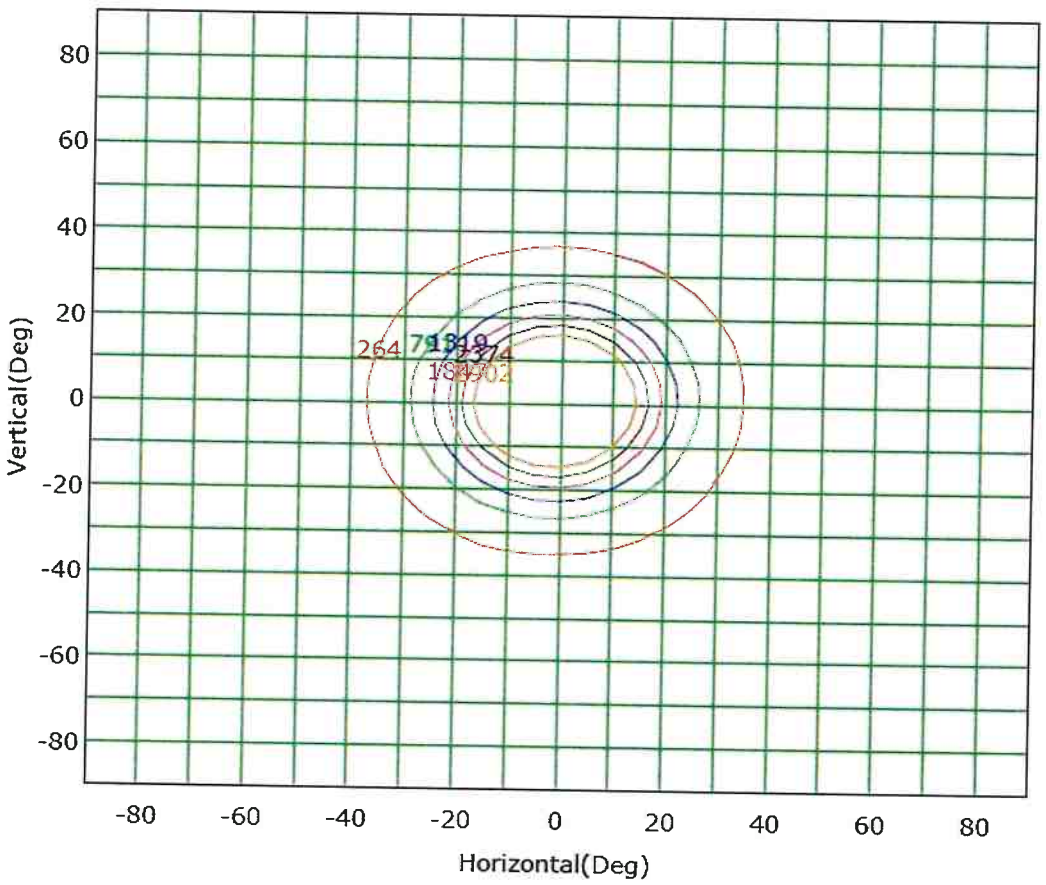
Spacing Criteria (0-180): 0.55
Spacing Criteria (90-270): 0.55
Spacing Criteria (Diagonal): 0.55

Curves of Luminaires vs Lighting Area



PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Isocandela (rectangle)

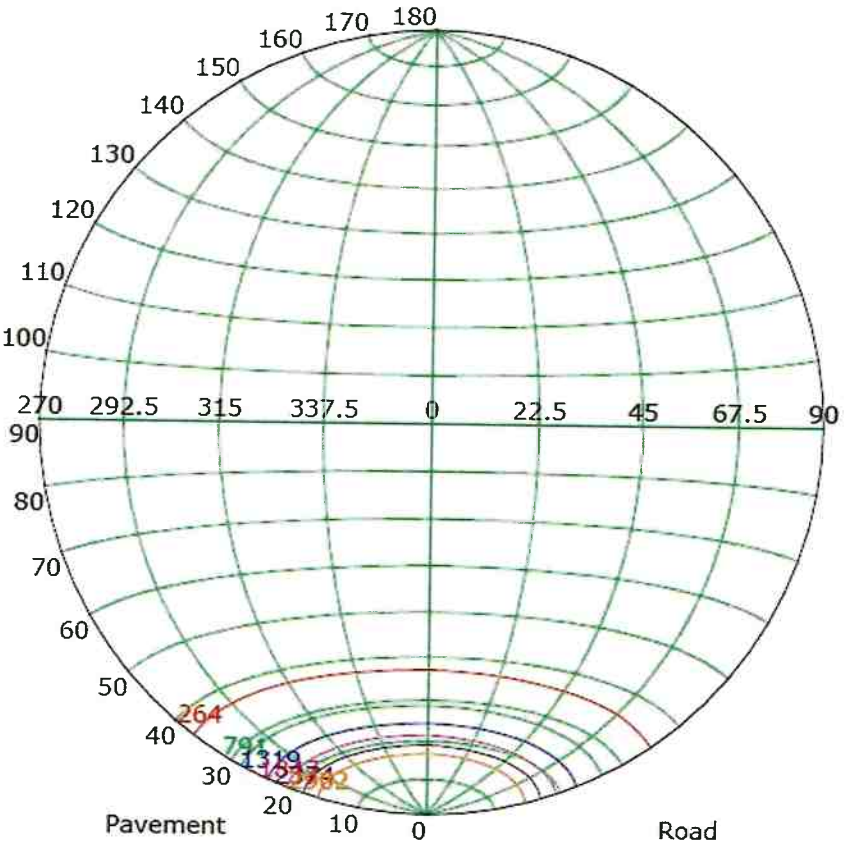


Imax (100%): 5276 cd

(5%): 264 cd	(15%): 791 cd
(25%): 1319 cd	(35%): 1847 cd
(45%): 2374 cd	(55%): 2902 cd

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Isocandela (sphere)

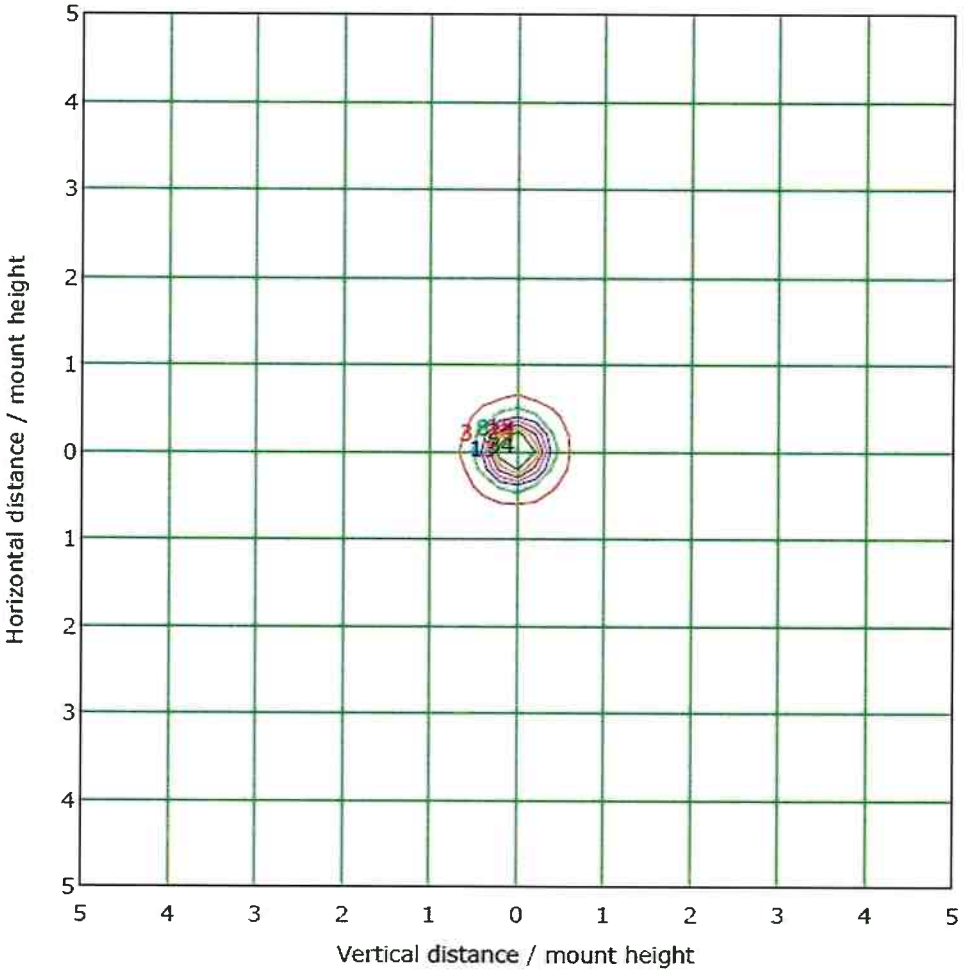


Imax (100%): 5276 cd

(5%): 264 cd	(15%): 791 cd
(25%): 1319 cd	(35%): 1847 cd
(45%): 2374 cd	(55%): 2902 cd

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

IsoLux Plot



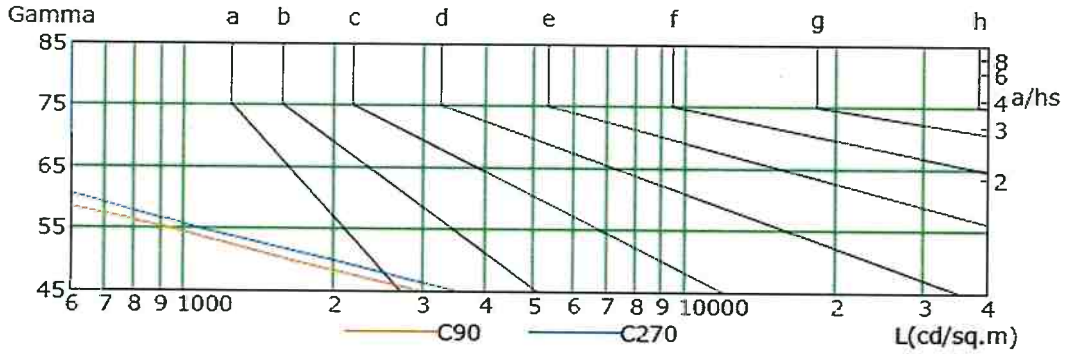
Mounting Height: 10.0m Max Lux(100%): 52.7 lx

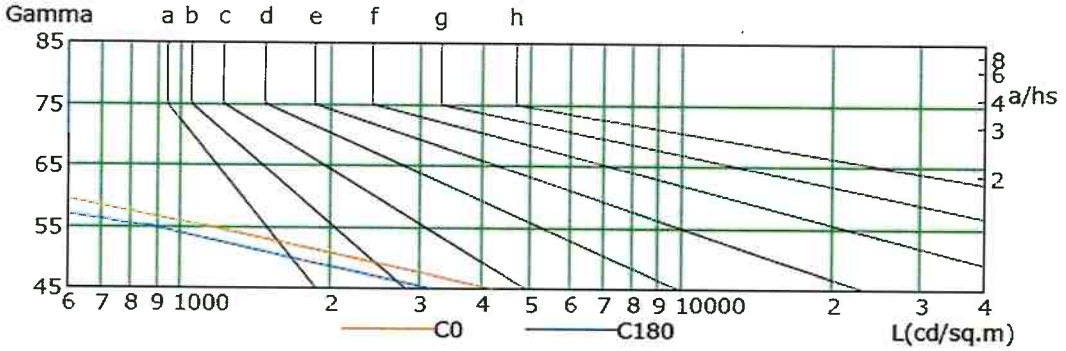
(5%): 2.6 lx	(15%): 7.9 lx
(25%): 13.2 lx	(35%): 18.5 lx
(45%): 23.7 lx	(55%): 29.0 lx
(65%): 34.3 lx	

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Lum Limit Curve

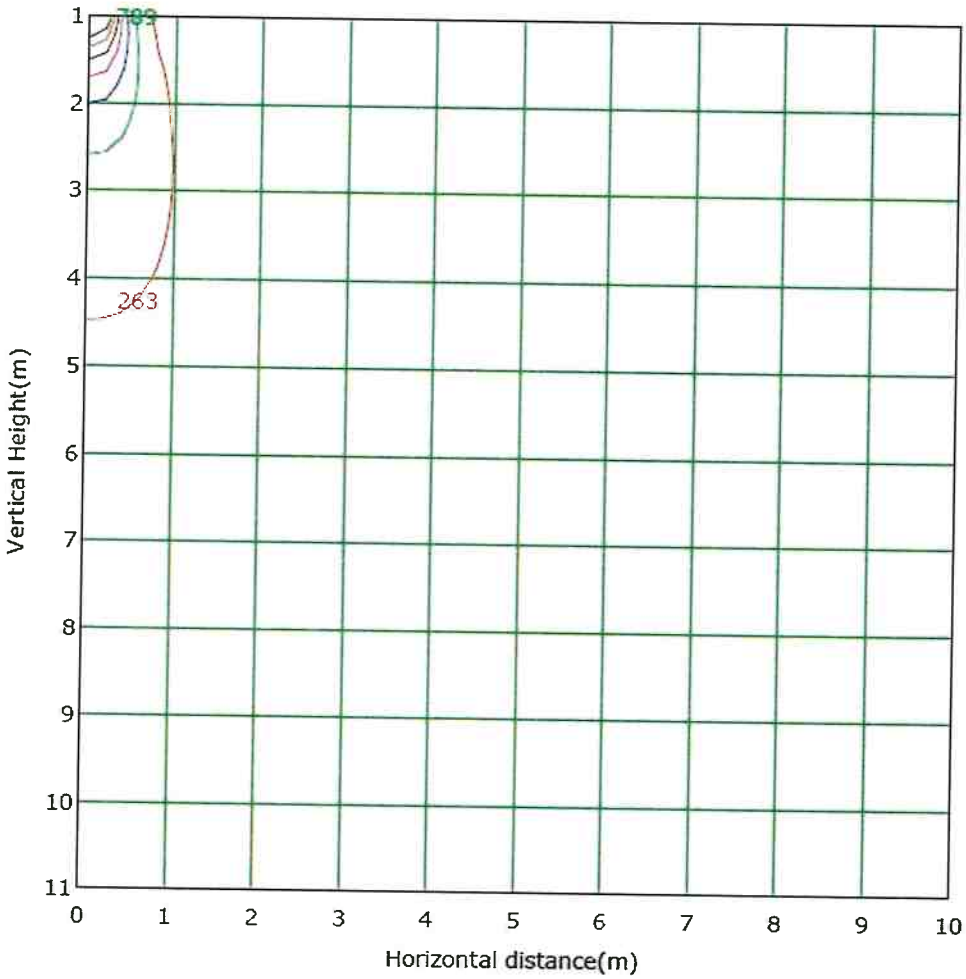
Dazzle	Quality	Illuminance (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h





L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	4222	2226	1144	560	217	0	0	0	0
C90	2974	1613	939	477	223	0	0	0	0
C180	3184	1656	883	349	57	0	0	0	0
C270	3504	1962	1071	626	279	0	0	0	0

Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 5263.3 lx

(5%): 263.2 lx
(15%): 789.5 lx
(25%):1315.8 lx
(35%):1842.2 lx
(45%):2368.5 lx
(55%):2894.8 lx
(65%):3421.1 lx

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

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	10.7	11.4	10.9	11.6	11.8	9.9	10.6	10.1	10.8	11.0
3H	10.6	11.2	10.8	11.4	11.7	9.8	10.4	10.0	10.6	10.9
4H	10.5	11.1	10.8	11.4	11.6	9.7	10.3	10.0	10.6	10.8
6H	10.4	11.0	10.7	11.3	11.6	9.6	10.2	9.9	10.5	10.8
8H	10.4	10.9	10.7	11.2	11.5	9.6	10.1	9.9	10.4	10.7
12H	10.3	10.9	10.7	11.2	11.5	9.5	10.1	9.9	10.4	10.7
X=4H Y=2H	10.5	11.1	10.8	11.4	11.6	9.7	10.3	10.0	10.6	10.8
3H	10.4	10.9	10.7	11.2	11.5	9.6	10.1	9.9	10.4	10.7
4H	10.3	10.7	10.7	11.1	11.4	9.5	9.9	9.9	10.3	10.6
6H	10.2	10.6	10.6	11.0	11.4	9.4	9.8	9.8	10.2	10.6
8H	10.1	10.5	10.6	10.9	11.3	9.3	9.7	9.8	10.1	10.5
12H	10.1	10.4	10.5	10.8	11.3	9.3	9.6	9.7	10.0	10.5
X=8H Y=4H	10.1	10.5	10.6	10.9	11.3	9.3	9.7	9.8	10.1	10.5
6H	10.0	10.3	10.5	10.8	11.2	9.3	9.6	9.7	10.0	10.4
8H	10.0	10.3	10.5	10.7	11.2	9.2	9.5	9.7	9.9	10.4
12H	9.9	10.2	10.4	10.7	11.2	9.2	9.4	9.6	9.9	10.4
X=12H Y=4H	10.1	10.4	10.5	10.8	11.3	9.3	9.6	9.7	10.0	10.5
6H	10.0	10.3	10.5	10.7	11.2	9.2	9.5	9.7	9.9	10.4
8H	9.9	10.2	10.4	10.7	11.2	9.2	9.4	9.6	9.9	10.4
Variations with the observer position at spacings:										
S=1.0H	+4.8/-7.9					+4.7/-8.2				
S=1.5H	+7.6/-13.1					+7.3/-12.9				
S=2.0H	+9.6/-44.9					+9.3/-22.9				

Calculate in accordance with CIE Pub.117. The table is revised with 2040lm (8log(F/F0) = 2.5).

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NOM = 0.75								
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	0.93	0.98	1.01	1.04	1.07	1.09	1.10	1.12	1.13
	0.30		0.90	0.95	0.98	1.00	1.04	1.06	1.08	1.10	1.12
	0.20		0.87	0.92	0.95	0.98	1.02	1.04	1.06	1.08	1.10
0.50	0.50	0.20	0.92	0.97	0.99	1.01	1.04	1.06	1.07	1.08	1.09
	0.30		0.89	0.93	0.96	0.99	1.02	1.04	1.05	1.07	1.08
	0.20		0.86	0.91	0.94	0.97	1.00	1.02	1.03	1.05	1.07
0.30	0.50	0.20	0.91	0.95	0.97	0.99	1.01	1.03	1.04	1.05	1.05
	0.30		0.88	0.92	0.95	0.97	1.00	1.01	1.02	1.04	1.04
	0.20		0.86	0.90	0.93	0.95	0.98	1.00	1.01	1.03	1.04
0.00	0.00	0.00	0.85	0.89	0.91	0.93	0.95	0.96	0.97	0.98	0.99

Rating:51W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Utilisation Factor Table(Wall)

Utilisation Factors UF(W)			SHR NOM = 0.75								
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	0.47	0.38	0.32	0.28	0.22	0.18	0.16	0.12	0.10
	0.30		0.39	0.33	0.28	0.25	0.20	0.17	0.15	0.11	0.09
	0.20		0.34	0.29	0.25	0.22	0.18	0.16	0.14	0.11	0.09
0.50	0.50	0.20	0.45	0.36	0.30	0.26	0.20	0.21	0.14	0.11	0.09
	0.30		0.38	0.31	0.27	0.23	0.19	0.15	0.13	0.10	0.09
	0.20		0.33	0.27	0.24	0.21	0.17	0.14	0.12	0.10	0.08
0.30	0.50	0.20	0.42	0.33	0.28	0.24	0.18	0.15	0.13	0.10	0.08
	0.30		0.36	0.29	0.25	0.22	0.17	0.14	0.12	0.09	0.08
	0.20		0.32	0.26	0.23	0.20	0.16	0.13	0.11	0.09	0.07
0.00	0.00	0.00	0.17	0.13	0.11	0.09	0.07	0.05	0.05	0.03	0.03

Rating:51W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

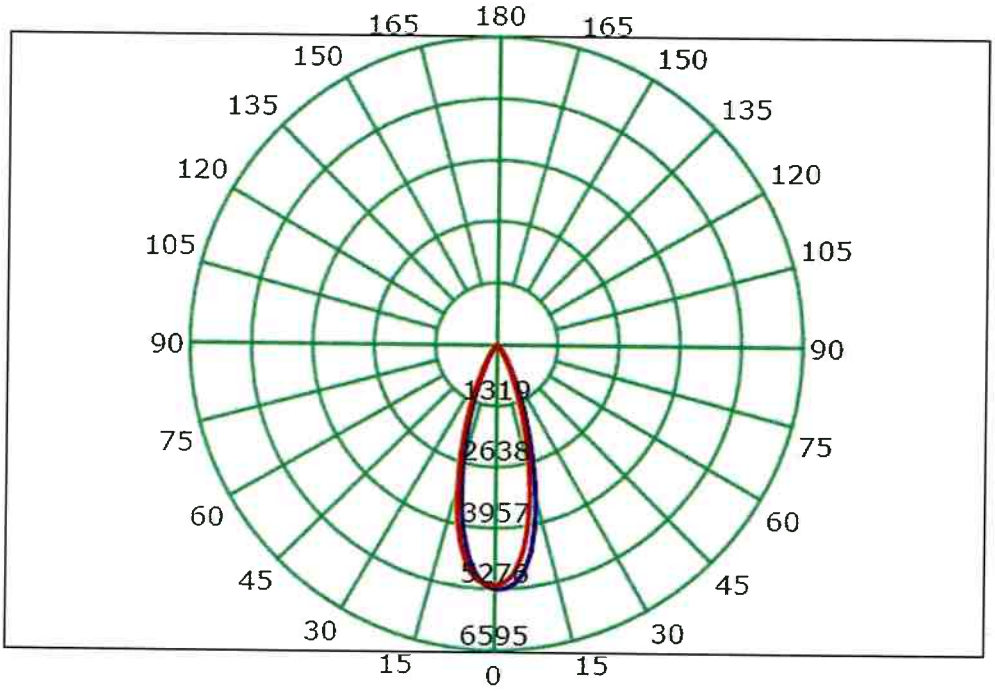
Utilisation Factor Table(Ceiling cavity)

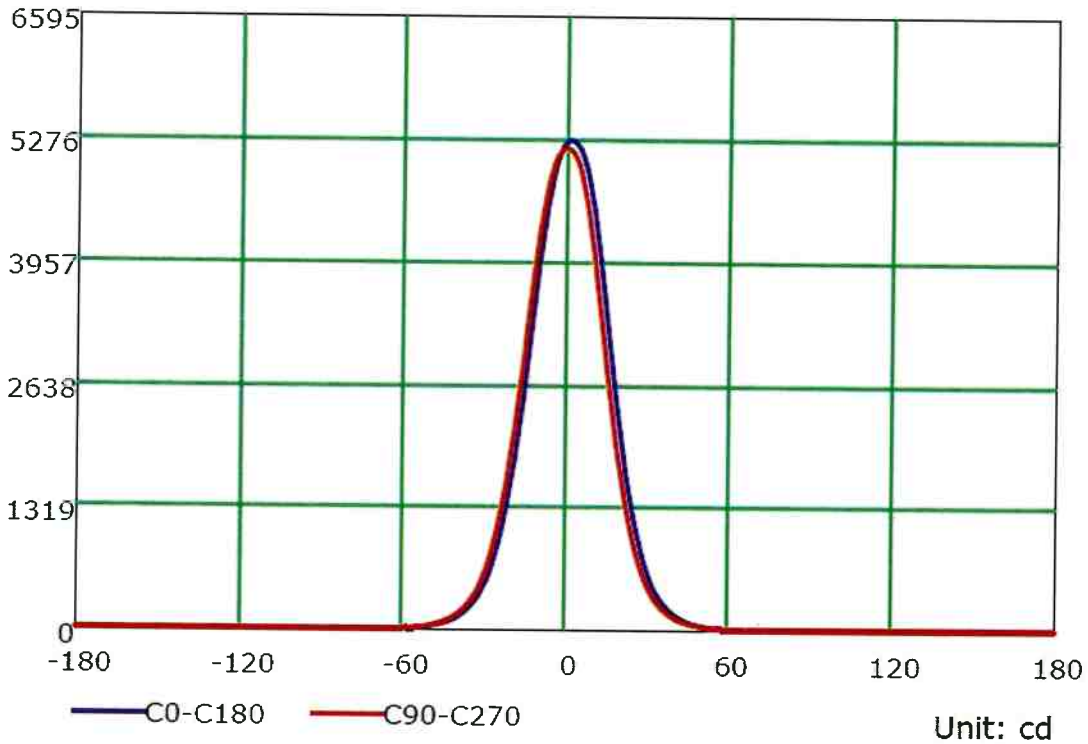
Utilisation Factors UF(C)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.12	0.14	0.15	0.16	0.18	0.19	0.19	0.20	0.21
	0.30		0.09	0.11	0.12	0.14	0.16	0.17	0.18	0.19	0.20
	0.20		0.07	0.09	0.10	0.12	0.14	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		0.07	0.09	0.10	0.11	0.13	0.15	0.16	0.17	0.18
0.30	0.50	0.20	0.11	0.13	0.14	0.15	0.16	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	0.18
	0.20		0.07	0.08	0.10	0.11	0.13	0.14	0.15	0.17	0.18
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating:51W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

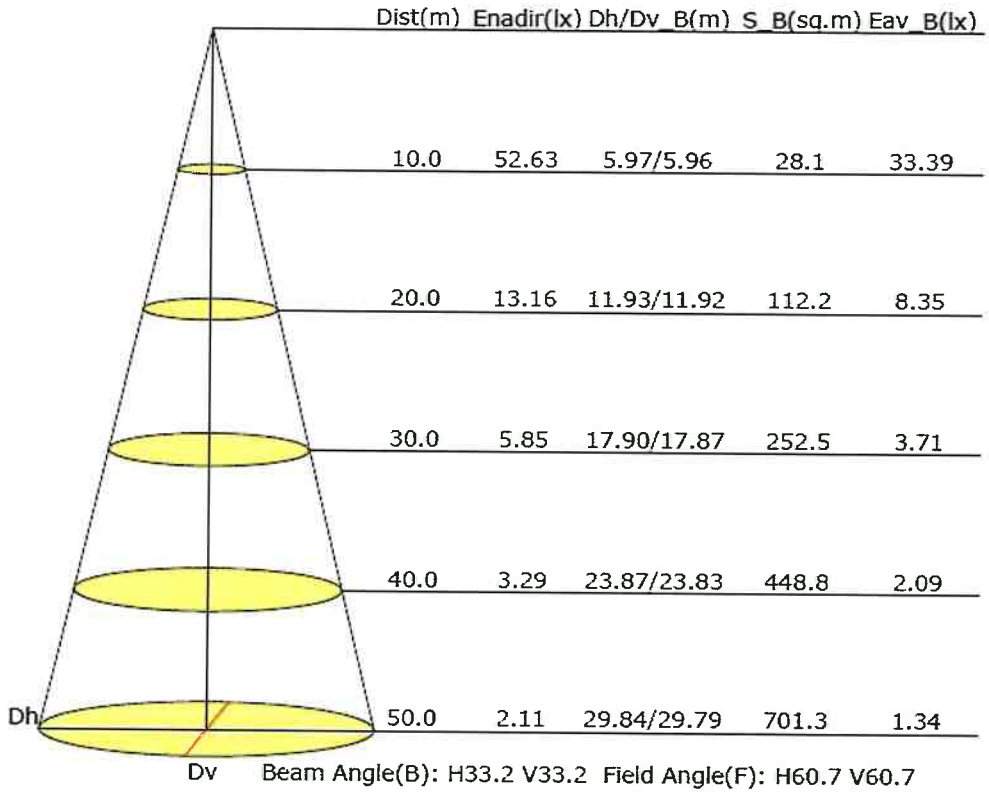
Luminous Intensity Distribution Curve





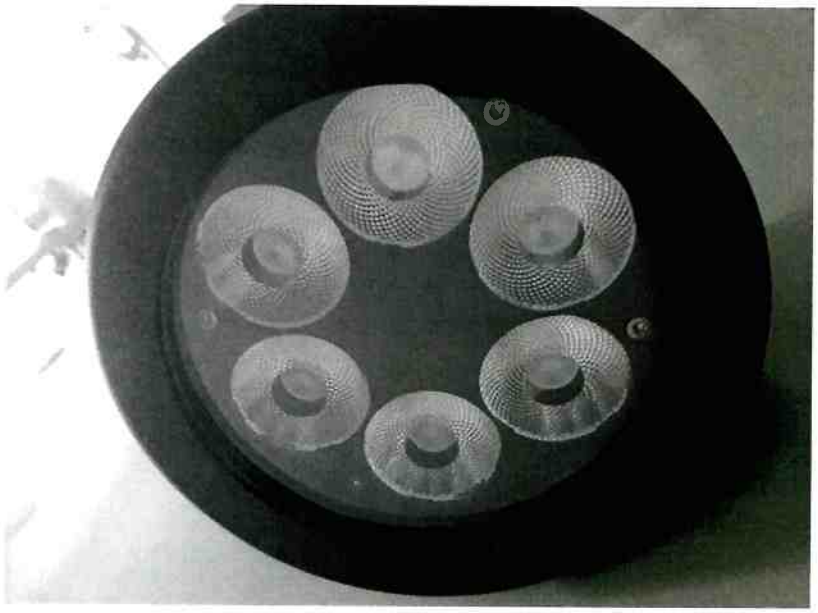
PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctesting.com web: www.ptctesting.com

Illuminance at a Distance



PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

Görsel Dökümanlar / *Photo Documentation*



PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com

PTC Ürün Test ve Belgelendirme San. Tic. Ltd. Şti.
Aydınlı Mah. Patlayıcı Maddeler Yolu Cad. Beyoğlu Sanayi Sitesi. D1 Blok No:26 Tuzla/İstanbul-Turkey
Tel:+90 216 393 3232 e-mail:info@ptctestng.com web: www.ptctesting.com