



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:

171801-864-2

Numunenin Adı ve Tarif:
Name and identity of test item:

Procolor DC 60RGBW Floodlight Narrow Beam 10° P03002101

Numune Kabul Tarihi:
The date of receipt of test item:

03.01.2020

Deneyin Yapıldığı Tarih:
Date of test:

03.01.2020

Rapor Sayfa Sayısı:
Number of pages of the report:

20

Uygulanan Standart / Metod: IES-LM-79-08 (with TS EN13032-1)
Applied Standart / Method

Açıklamalar:
Remarks:

Test sonuçları için raporu inceleyiniz. / Review the report for test results.

Mühür / Tarih
Seal / Date

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

15.01.2020

ONAY
APPROVED



Vergi No
Task Number
733 043 5931

Deneyi Yapan Personel
Person in Performing the Test

Emine Nur ÇİDEM

Laboratuvar Teknik Yöneticisi
Laboratory Technical Manager

Murat ÇİTİL

Bu rapor, Laboratuvarımızın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz. İmzasız ve mühürlü raporlar geçersizdir.
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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.ptctestng.com

FOTOMETRİK ÖLÇÜM SONUÇLARI / PHOTOMETRIC MEASUREMENT RESULTS

Kullanılan Cihaz/Equipment Used.....:	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 +A1:2012 Light and Lighting - Measurement and Presentation of Photometric Data of Lamps and Luminaires-Part 1: Measurement and File.
Deney Ortam Şartları/Experimental Ambient Conditions.....:	25°C ±1°C, 60%RH±5%RH
Armatüre Uygulanan Gerilim / Applied Voltage.....:	48 V dc
Armatür Markası-Üretici/Luminaire Brand-Producer.....:	HERA EĞLENCE VE MİMARİ AYDINLATMA SİSTEMLERİ A.Ş.
Armatür Kodu-Modeli/Luminaire Code-Model.....:	Procolor DC 60RGBW Floodlight Narrow Beam 10° P03002101

Armatürde Ölçülen Toplam Güç / Measured Total Power of Luminaire.....:	40.32 W ;
Armatürün Ölçülen Işık Akısı / Measured Luminous Flux of Luminaire.....:	1563.6 lm (Effective Value)
Armatür verimliliği (lm/Watt) / Luminous efficiency.....:	38.78 lm/Watt
Beam Angle (C0/C180,C90/C270,C45/C225,C135/315):	22.0, 22.1, 22.2, 22.0

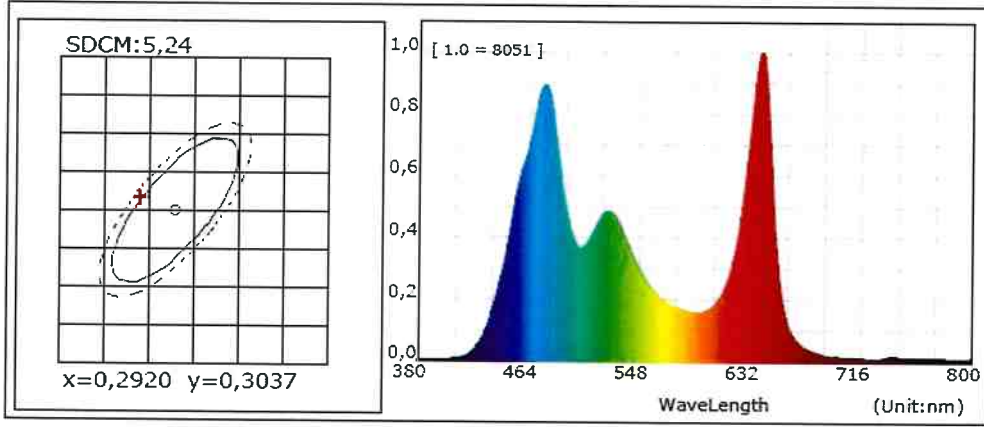
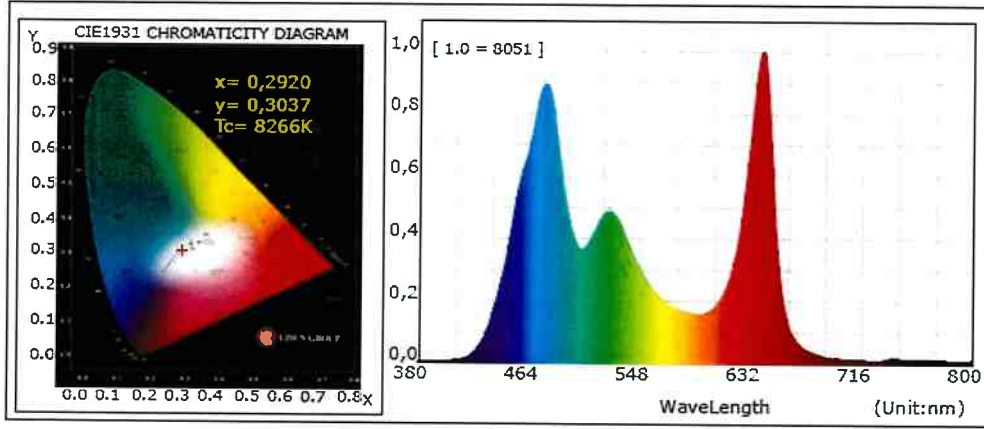
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Tel: +90 216 393 3232 e-mail: info@pctestng.com web: www.ptctestng.com

Date/Time	03.01.2020 15:40
Chromaticity x coord	0,2920
Chromaticity y coord	0,3037
Chromaticity u coord	0,1927
Chromaticity v coord	0,3007
Chromaticity u' coord	0,1927
Chromaticity v' coord	0,4510
Peak Wavelength (nm)	639,9
Half Wavelength (nm)	24,0
Dominant Wavelength (nm)	481,8
Color Purity (%)	16,543
Correlated Color Temperature (deg. K)	8266
SDCM	5,24
Color Rendering Index Average (RA)	58,5
Color Rendering Index (R1)	50
Color Rendering Index (R2)	65
Color Rendering Index (R3)	82
Color Rendering Index (R4)	61
Color Rendering Index (R5)	61
Color Rendering Index (R6)	65
Color Rendering Index (R7)	65
Color Rendering Index (R8)	19
Color Rendering Index (R9)	-131
Color Rendering Index (R10)	24
Color Rendering Index (R11)	64
Color Rendering Index (R12)	60
Color Rendering Index (R13)	51
Color Rendering Index (R14)	88
Color Rendering Index (R15)	34

DENEY RAPORU / TEST REPORT

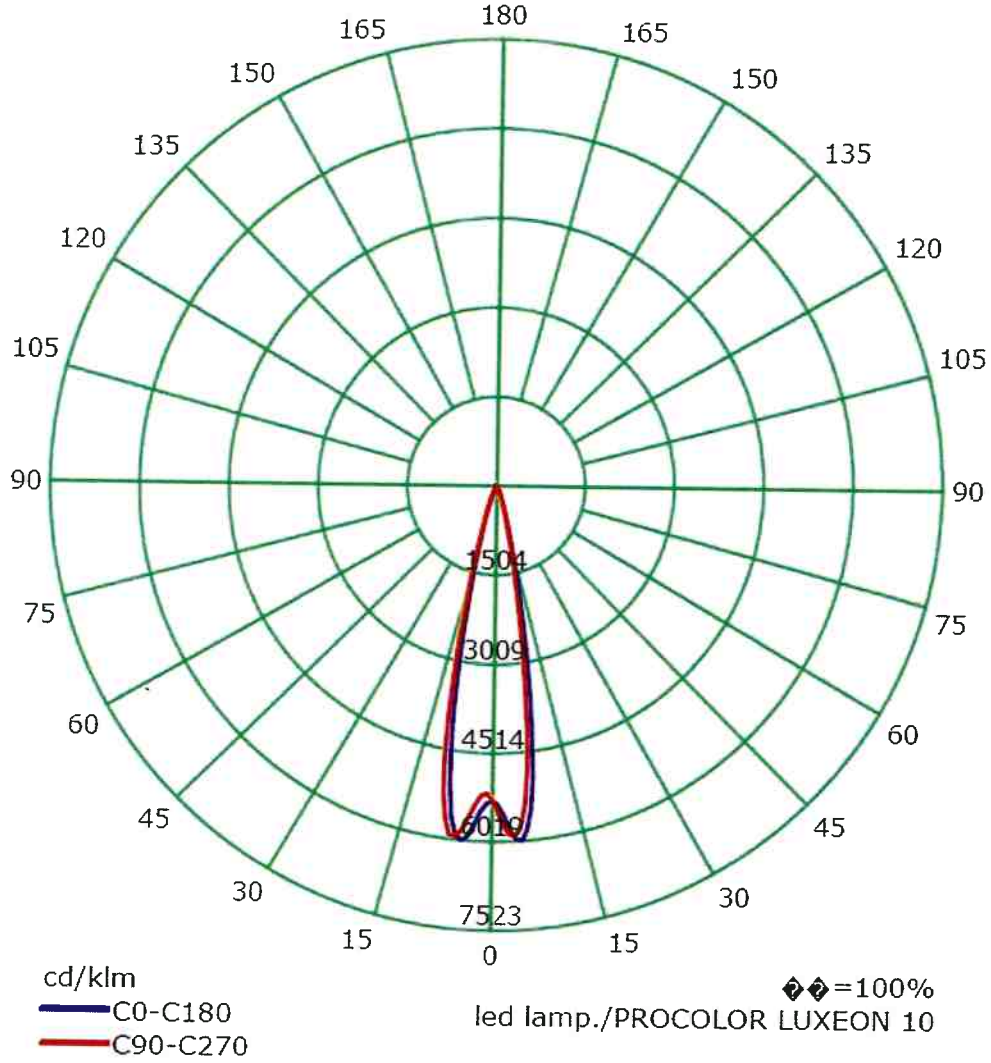
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Luminous Intensity Distribution Curve(cd/klm)



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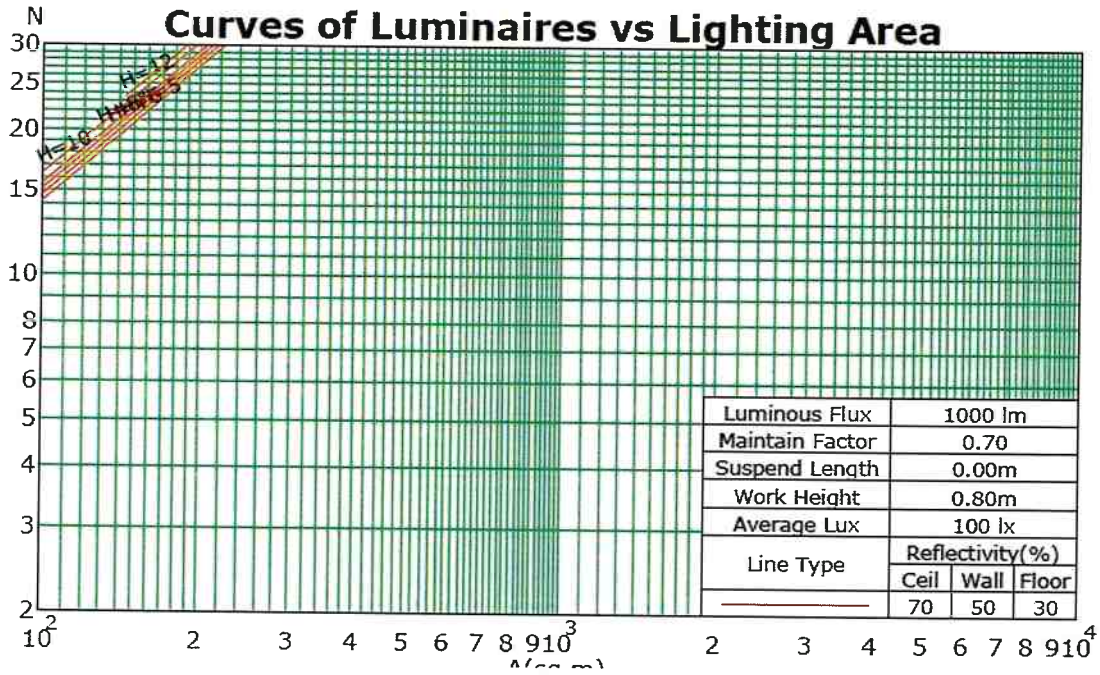
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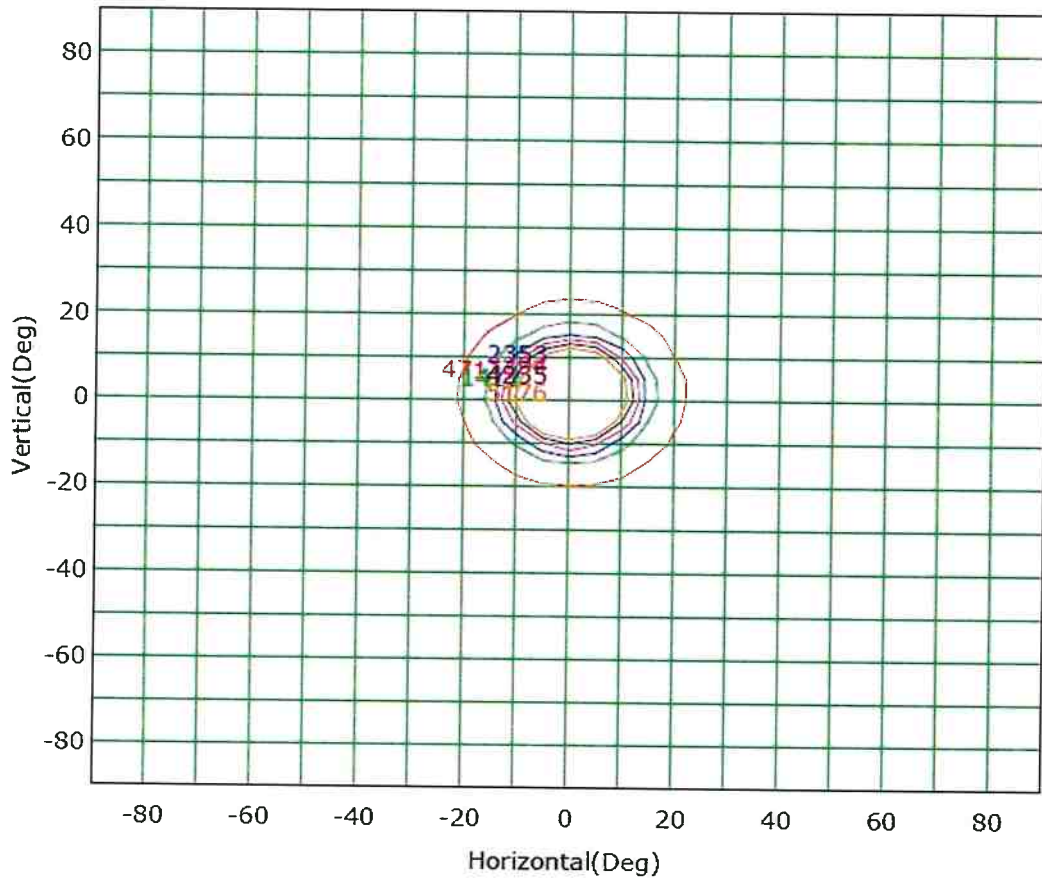
Coefficients of Utilization - Zonal Cavity Method

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	110	113	111	110	108	107	106	105	103	103	102	100	99	99	97
2	112	108	106	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94
3	109	104	101	98	107	103	100	97	101	98	96	98	96	94	96	94	93	92
4	106	101	97	94	104	100	96	94	98	95	93	96	93	92	94	92	91	89
5	103	98	94	91	102	97	93	91	95	92	90	94	91	89	92	90	88	87
6	100	95	91	88	99	94	90	88	93	90	87	92	89	87	90	88	86	85
7	98	92	88	86	97	92	88	86	91	87	85	90	87	85	89	86	84	83
8	96	90	86	84	95	89	86	83	89	85	83	88	85	83	87	84	83	82
9	94	88	84	82	93	87	84	82	87	84	81	86	83	81	85	83	81	80
10	92	86	82	80	91	86	82	80	85	82	80	84	82	80	84	81	79	79

Spacing Criteria (0-180): 0.40
 Spacing Criteria (90-270): 0.40
 Spacing Criteria (Diagonal): 0.35



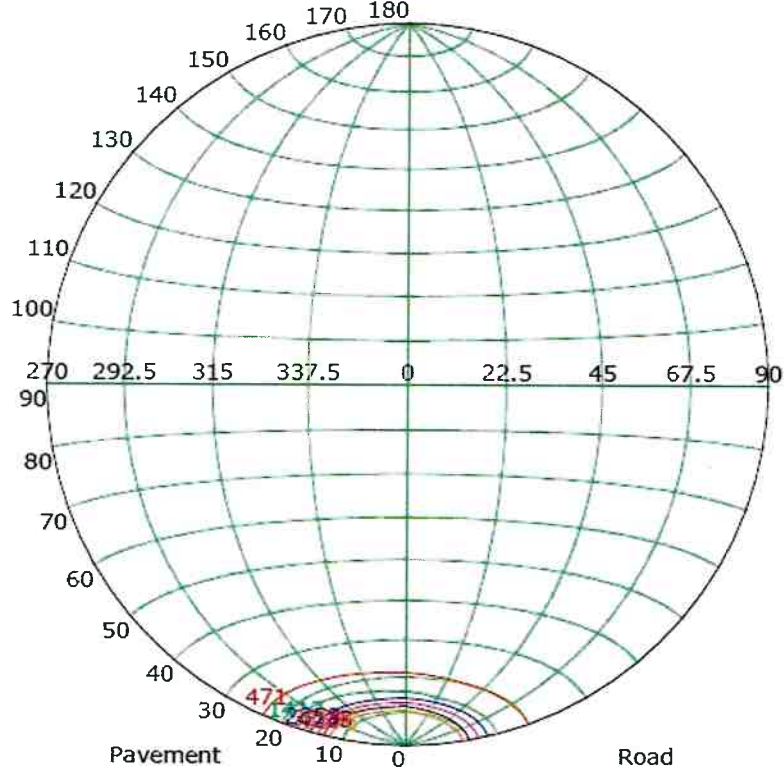
Isocandela (rectangle)



Imax (100%): 9411 cd

— (5%): 471 cd	— (15%): 1412 cd
— (25%): 2353 cd	— (35%): 3294 cd
— (45%): 4235 cd	— (55%): 5176 cd

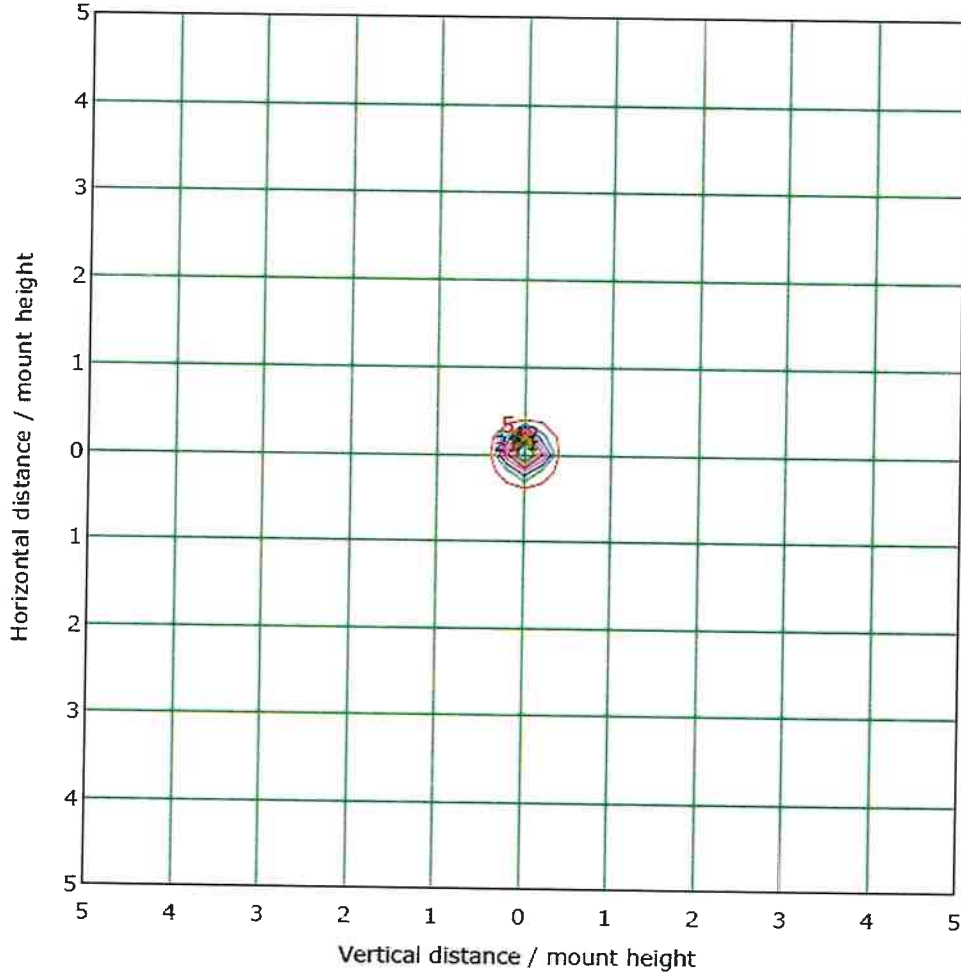
Isocandela (sphere)



Imax (100%): 9411 cd

— (5%): 471 cd	— (15%): 1412 cd
— (25%): 2353 cd	— (35%): 3294 cd
— (45%): 4235 cd	— (55%): 5176 cd

IsoLux Plot

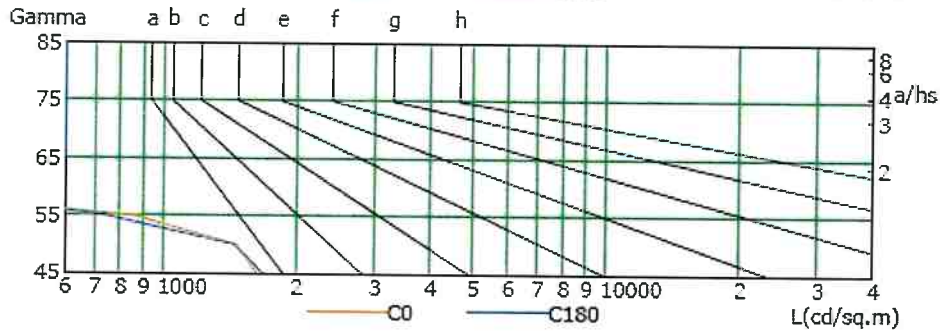
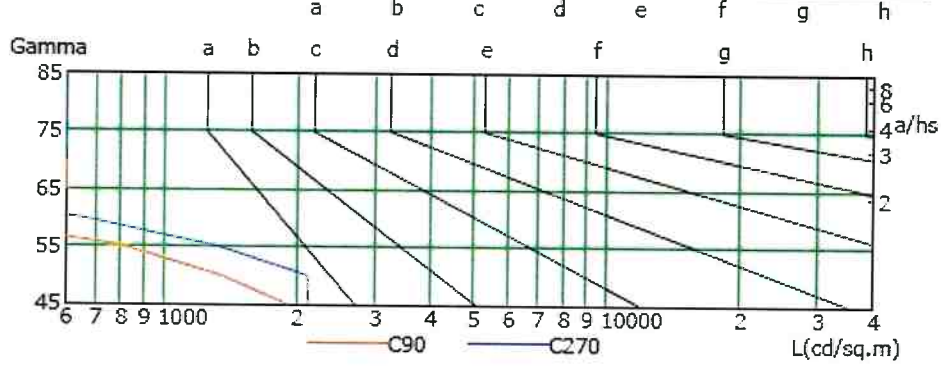


Mounting Height: 10.0m Max Lux(100%): 93.4 lx

(5%): 4.7 lx	(15%): 14.0 lx
(25%): 23.3 lx	(35%): 32.7 lx
(45%): 42.0 lx	(55%): 51.4 lx
(65%): 60.7 lx	

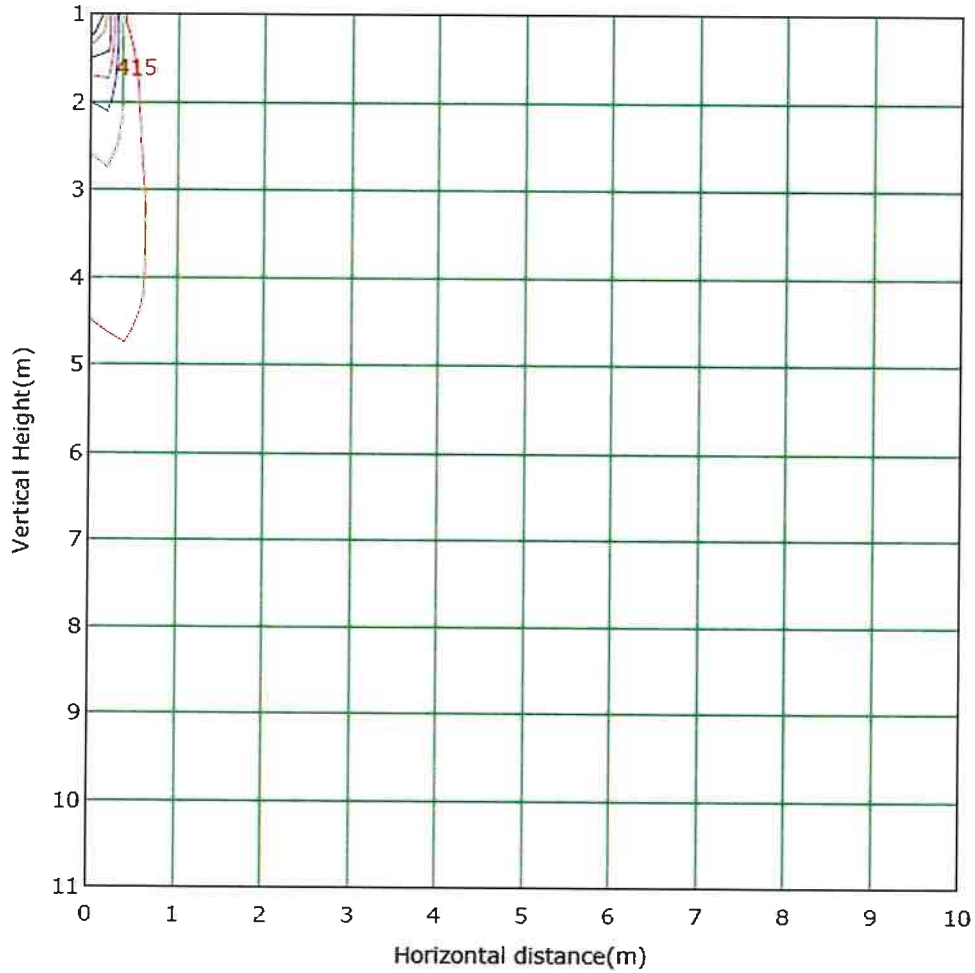
Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
		2000	1000	500	<=300				
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



L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	1632	1460	856	156	0	0	0	0	0
C90	1912	1341	815	321	0	0	0	0	0
C180	1685	1451	739	239	0	0	0	0	0
C270	2131	2117	1335	650	159	0	0	0	0

Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 8309.7 lx
— (5%): 415.5 lx — (15%):1246.5 lx
— (25%):2077.4 lx — (35%):2908.4 lx
— (45%):3739.4 lx — (55%):4570.3 lx
— (65%):5401.3 lx

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	3.9	4.5	4.1	4.6	4.8	4.0	4.6	4.3	4.8	4.9
3H	3.8	4.3	4.0	4.5	4.7	3.9	4.4	4.2	4.6	4.9
4H	3.7	4.2	4.0	4.4	4.7	3.8	4.3	4.1	4.5	4.8
6H	3.6	4.1	3.9	4.3	4.6	3.7	4.2	4.1	4.5	4.7
8H	3.6	4.0	3.9	4.3	4.6	3.7	4.1	4.0	4.4	4.7
12H	3.5	4.0	3.9	4.3	4.6	3.7	4.1	4.0	4.4	4.7
X=4H Y=2H	3.8	4.3	4.1	4.5	4.8	3.9	4.4	4.2	4.6	4.9
3H	3.6	4.0	4.0	4.3	4.7	3.8	4.2	4.1	4.5	4.8
4H	3.5	3.9	3.9	4.2	4.6	3.7	4.0	4.0	4.4	4.7
6H	3.4	3.8	3.8	4.1	4.5	3.6	3.9	4.0	4.3	4.7
8H	3.4	3.7	3.8	4.1	4.5	3.5	3.8	4.0	4.2	4.6
12H	3.3	3.6	3.8	4.0	4.5	3.5	3.8	3.9	4.2	4.6
X=8H Y=4H	3.4	3.7	3.8	4.1	4.5	3.5	3.8	4.0	4.2	4.6
6H	3.3	3.5	3.7	4.0	4.4	3.4	3.7	3.9	4.1	4.6
8H	3.2	3.5	3.7	3.9	4.4	3.4	3.6	3.8	4.0	4.5
12H	3.2	3.4	3.7	3.8	4.3	3.3	3.5	3.8	4.0	4.5
X=12H Y=4H	3.3	3.6	3.8	4.0	4.5	3.5	3.8	3.9	4.2	4.6
6H	3.2	3.5	3.7	3.9	4.4	3.4	3.6	3.8	4.0	4.5
8H	3.2	3.4	3.7	3.8	4.3	3.3	3.5	3.8	4.0	4.5
Variations with the observer position at spacings:										
S=1.0H	+1.2/-2.3					+2.1/-2.8				
S=1.5H	+3.2/-23.0					+3.9/-11.1				
S=2.0H	+5.3/-1.5					+5.7/-1.5				

Calculate in accordance with CIE Pub.117. The table is revised with 1564lm ($8\log(F/F_0) = 1.6$).

Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			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	0.97	1.01	1.04	1.05	1.08	1.10	1.11	1.13	1.14	
		0.30	0.94	0.98	1.01	1.03	1.05	1.07	1.09	1.11	1.12	
		0.20	0.91	0.95	0.98	1.00	1.03	1.06	1.07	1.09	1.11	
0.50	0.50	0.20	0.96	0.99	1.02	1.03	1.05	1.07	1.08	1.09	1.10	
		0.30	0.93	0.97	0.99	1.01	1.03	1.05	1.06	1.07	1.08	
		0.20	0.91	0.95	0.97	0.99	1.02	1.03	1.04	1.06	1.07	
0.30	0.50	0.20	0.95	0.98	1.00	1.01	1.03	1.04	1.04	1.05	1.06	
		0.30	0.92	0.96	0.98	0.99	1.01	1.02	1.03	1.04	1.05	
		0.20	0.91	0.94	0.96	0.98	1.00	1.01	1.02	1.03	1.04	
0.00	0.00	0.00	0.89	0.92	0.94	0.95	0.97	0.98	0.98	0.99	1.00	

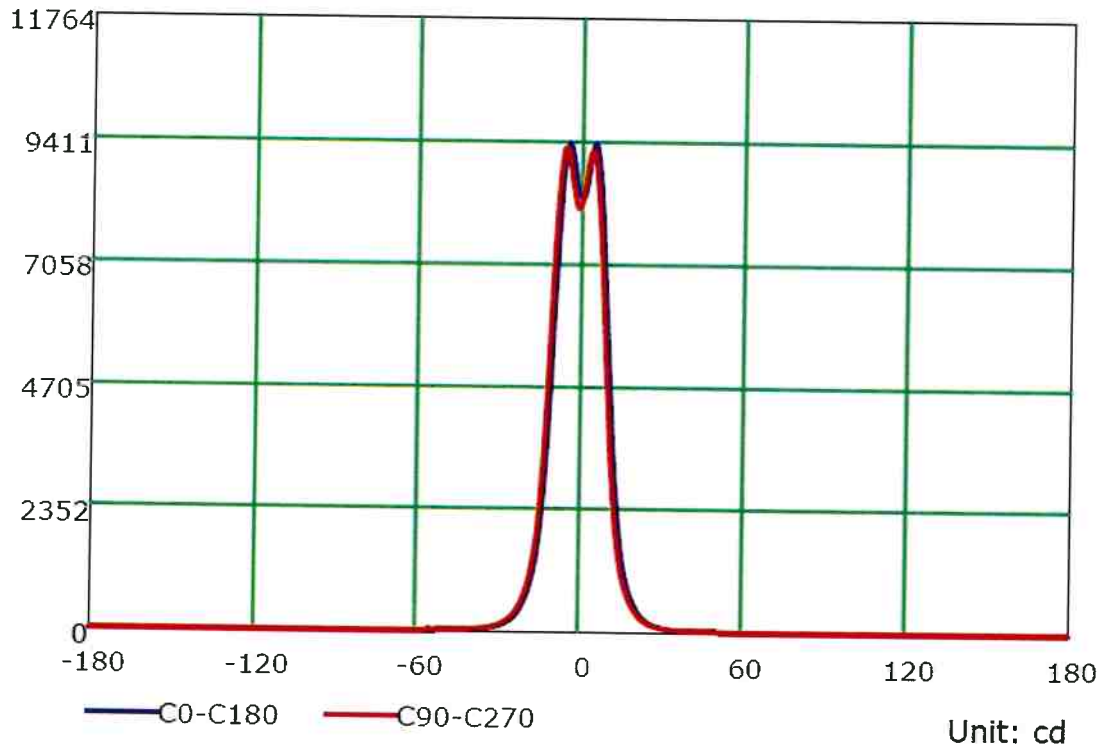
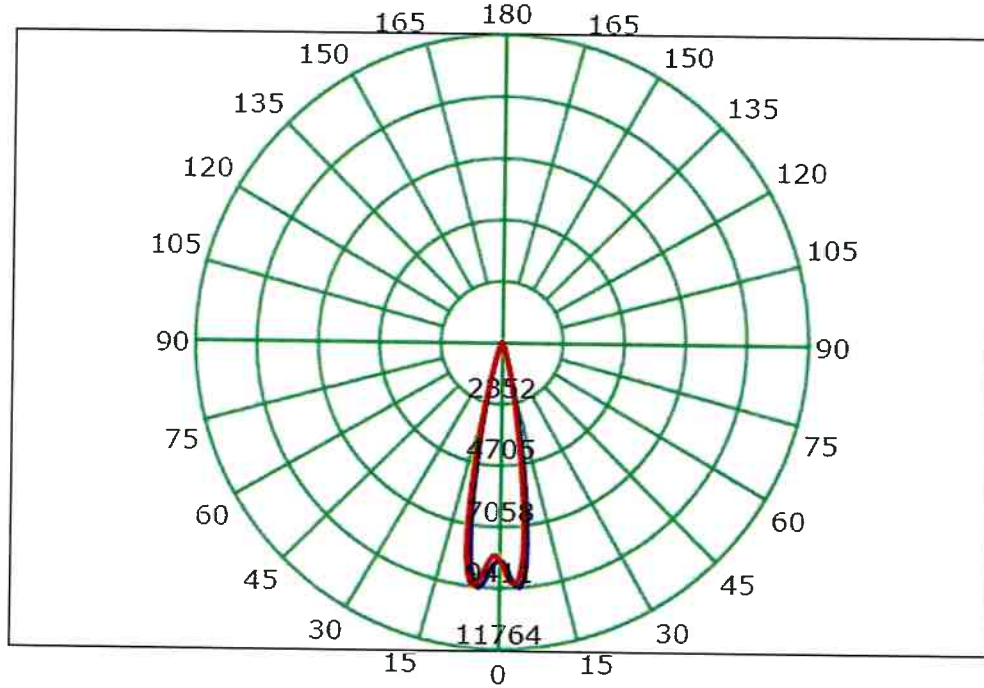
Rating:49W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

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	0.13	0.15	0.16	0.17	0.18	0.19	0.20	0.21	
	0.30		0.09	0.11	0.12	0.14	0.15	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	0.11	0.13	0.14	0.15	0.17	0.18	0.18	0.19	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	0.12	0.14	0.15	0.16	0.17	0.18	
0.30	0.50	0.20	0.11	0.12	0.14	0.15	0.16	0.17	0.18	0.19	0.19	
	0.30		0.08	0.10	0.12	0.13	0.15	0.16	0.17	0.18	0.18	
	0.20		0.07	0.09	0.10	0.11	0.13	0.15	0.16	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:49W Photometrically tested without ceiling board.
 Multiply UF values by service correction factors
 Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

Luminous Intensity Distribution Curve



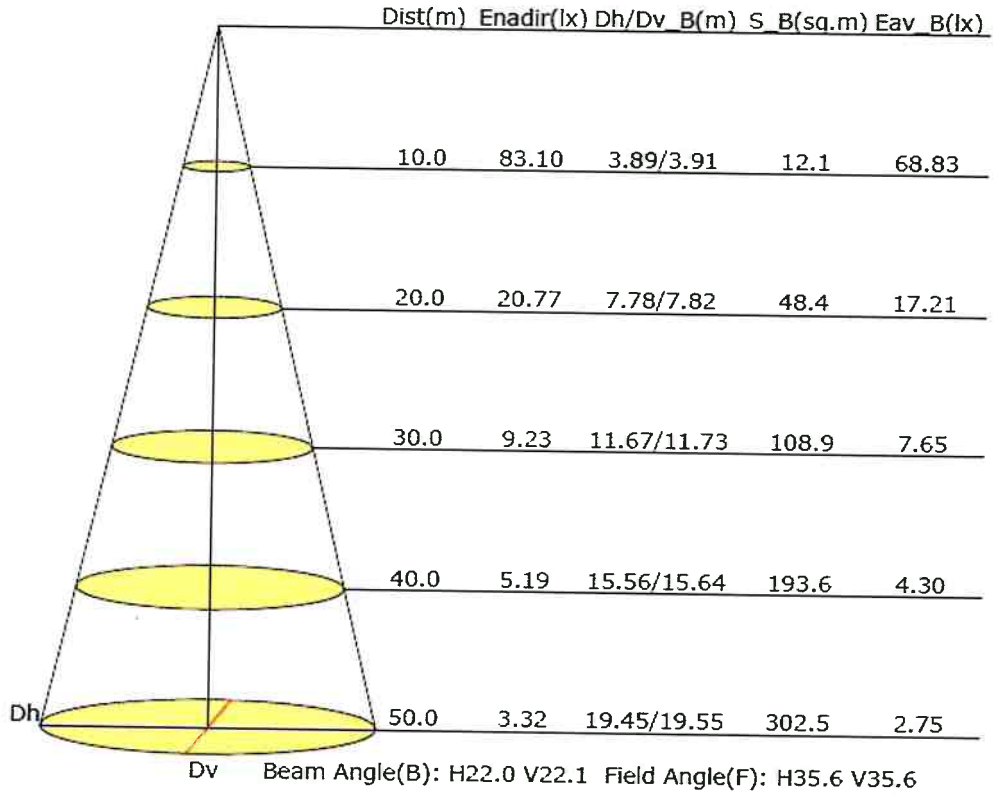
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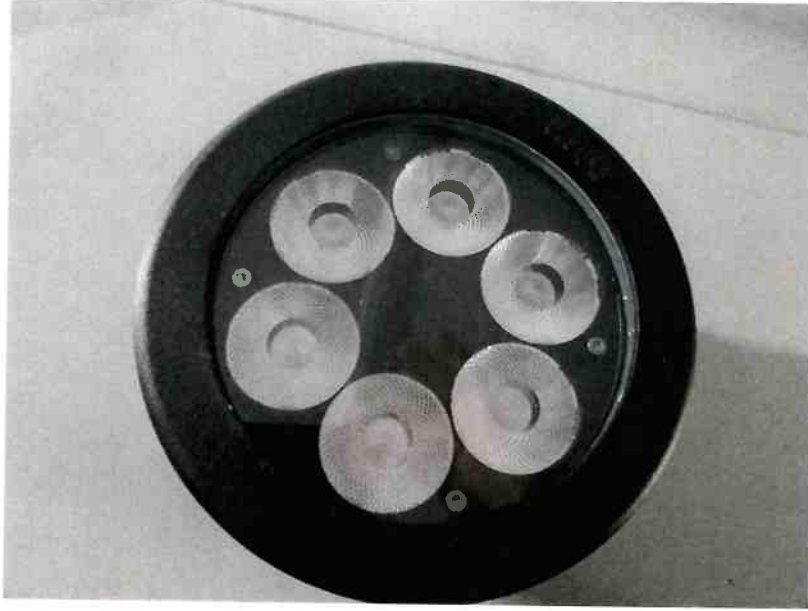
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Illuminance at a Distance



Görsel Dökümanlar / Photo Documentation



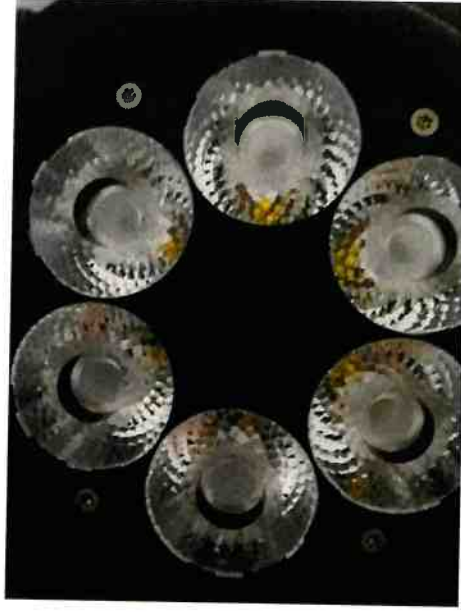
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