



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:

171801-864-5

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

Procolor DC 10DW Floodlight Narrow Beam 10° P03001121

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.



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 mühürsüz raporlar geçersizdir.
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DENEY RAPORU / TEST REPORT

Deney Rapor No / Test Report No: 171801-864-5

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.ptctestng.com

FOTOMETRİK ÖLÇÜM SONUÇLARI / PHOTOMETRIC MEASUREMNT 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 Measurement and Presentation of Photometric Data of Lampsand Luminaires-Part1: Measurementand 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 10DW Floodlight Narrow Beam 10° P03001121

Armatürde Ölçülen Toplam Güç / Measured Total Power of Luminaire.....:	8.64 W ;
Armatürün Ölçülen Işık Akısı / Measured Luminous Flux of Luminaire.....:	364.7 lm (Effective Value)
Armatür verimliliği (lm/Watt) / Luminous efficiency.....:	42.21 lm/Watt
Beam Angle (C0/C180,C90/C270,C45/C225,C135/315):	20.5, 16.9,19.0,16.8

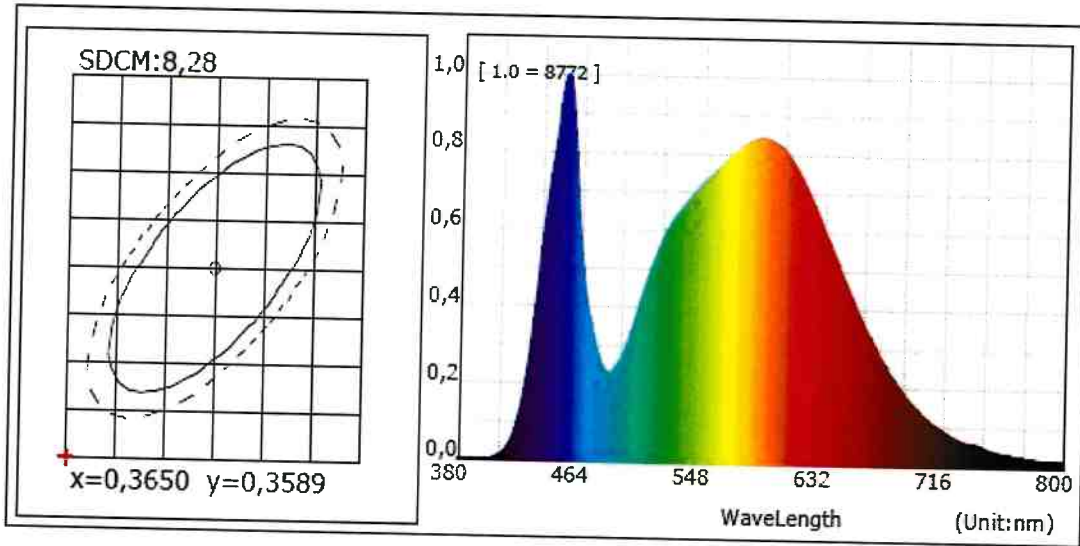
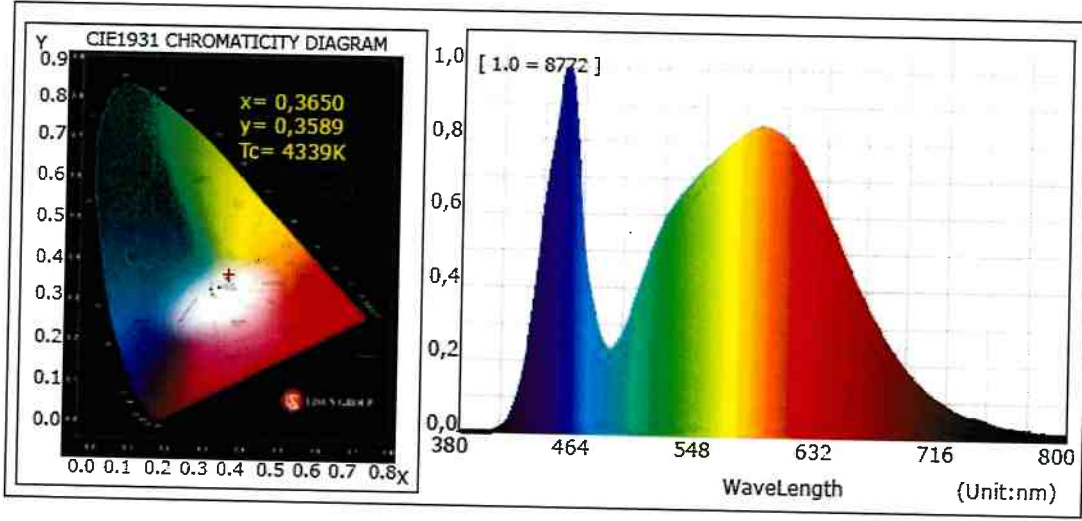
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Date/Time	06.01.2020 09:00
Chromaticity x coord	0,3650
Chromaticity y coord	0,3589
Chromaticity u coord	0,2220
Chromaticity v coord	0,3274
Chromaticity u' coord	0,2220
Chromaticity v' coord	0,4911
Peak Wavelength (nm)	452,0
Half Wavelength (nm)	30,0
Dominant Wavelength (nm)	580,7
Color Purity (%)	17,225
Correlated Color Temperature (deg. K)	4339
SDCM	8,28
Color Rendering Index Average (RA)	81,1
Color Rendering Index (R1)	80
Color Rendering Index (R2)	86
Color Rendering Index (R3)	89
Color Rendering Index (R4)	81
Color Rendering Index (R5)	80
Color Rendering Index (R6)	80
Color Rendering Index (R7)	86
Color Rendering Index (R8)	67
Color Rendering Index (R9)	11
Color Rendering Index (R10)	66
Color Rendering Index (R11)	78
Color Rendering Index (R12)	59
Color Rendering Index (R13)	81
Color Rendering Index (R14)	94
Color Rendering Index (R15)	77

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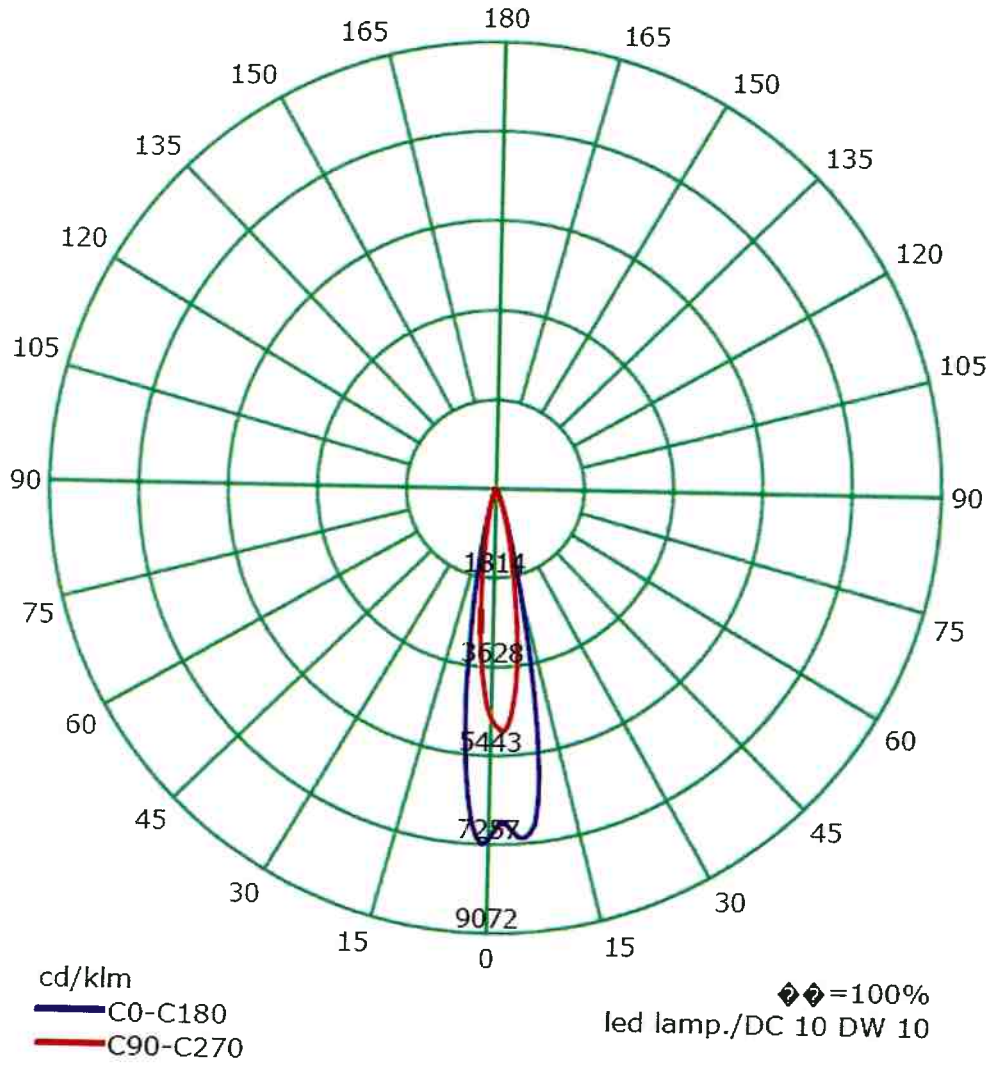
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Luminous Intensity Distribution Curve(cd/klm)



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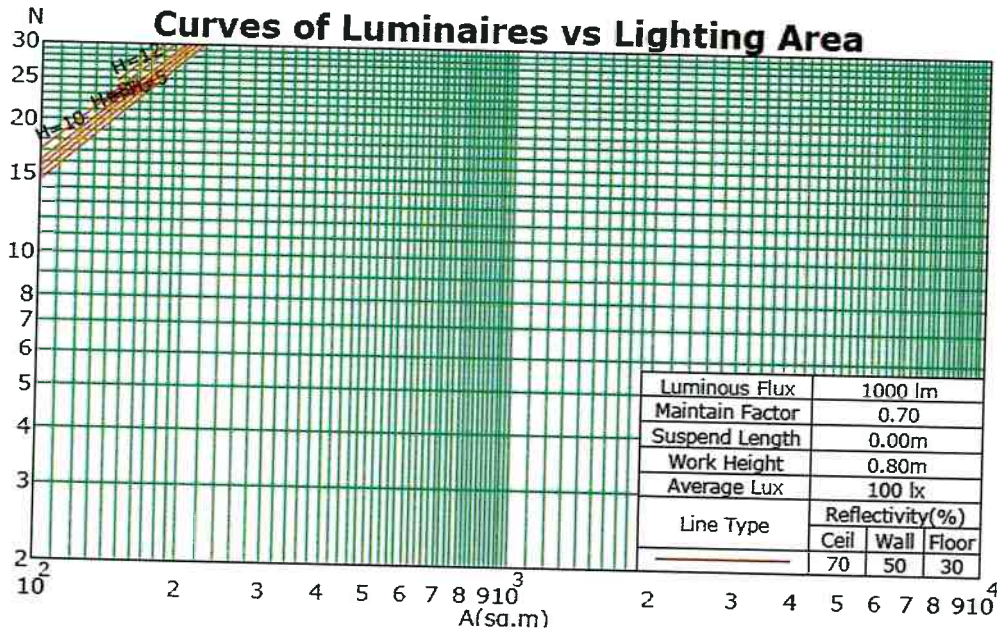
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Coefficients Of Utilization - Zonal Cavity Method

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	101	101	101	99
1	115	113	111	109	112	111	109	107	107	105	104	103	102	101	99	99	98	96
2	111	108	105	102	109	106	103	101	103	100	99	100	98	96	97	96	94	93
3	108	103	99	97	106	102	98	96	99	96	94	97	95	93	95	93	91	90
4	104	99	95	92	103	98	94	92	96	93	90	94	91	89	92	90	88	87
5	101	96	91	88	100	95	91	88	93	90	87	91	89	86	90	88	86	85
6	98	92	88	85	97	92	88	85	90	87	84	89	86	84	88	85	83	82
7	96	90	85	83	95	89	85	82	88	84	82	87	84	81	86	83	81	80
8	93	87	83	80	92	86	83	80	85	82	80	85	81	79	84	81	79	78
9	91	85	81	78	90	84	80	78	83	80	77	83	79	77	82	79	77	76
10	89	82	78	76	88	82	78	76	81	78	76	81	78	75	80	77	75	74

Spacing Criteria (0-180): 0.37
 Spacing Criteria (90-270): 0.31
 Spacing Criteria (Diagonal): 0.38



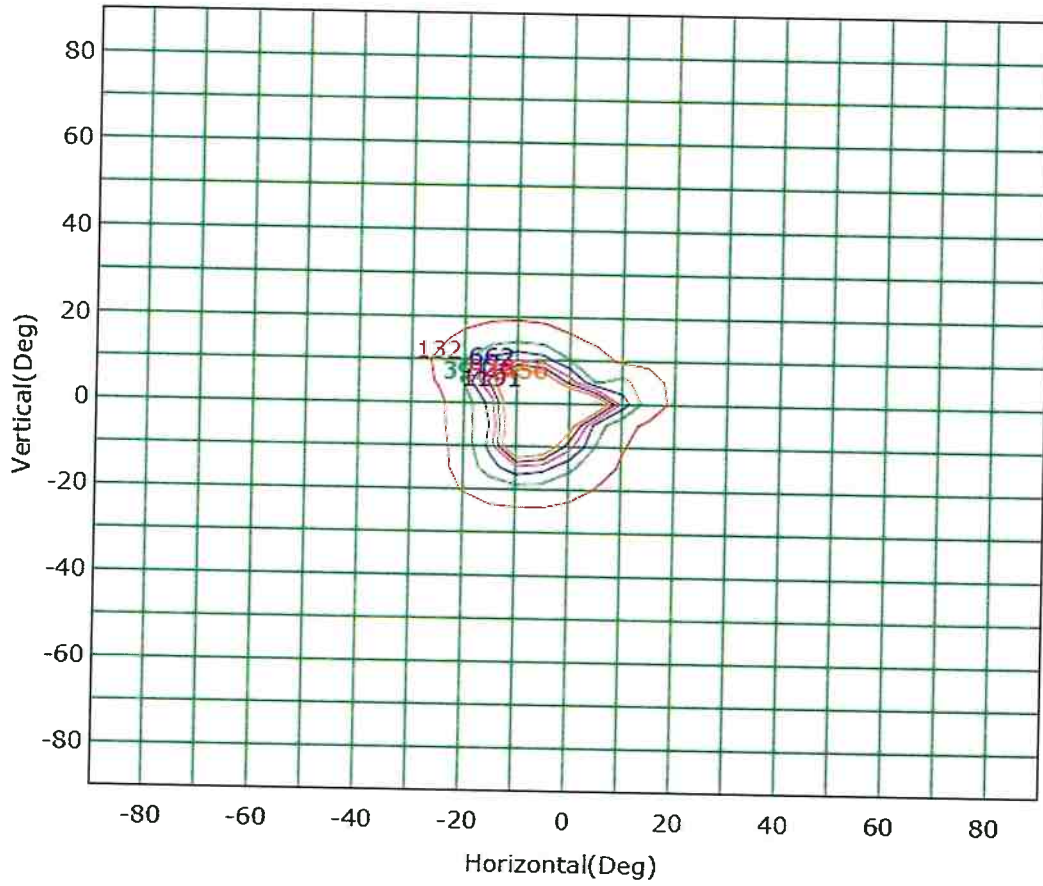
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Isocandela (rectangle)



Imax (100%): 2646 cd

— (5%): 132 cd	— (15%): 397 cd
— (25%): 662 cd	— (35%): 926 cd
— (45%): 1191 cd	— (55%): 1456 cd

DENEY RAPORU / TEST REPORT

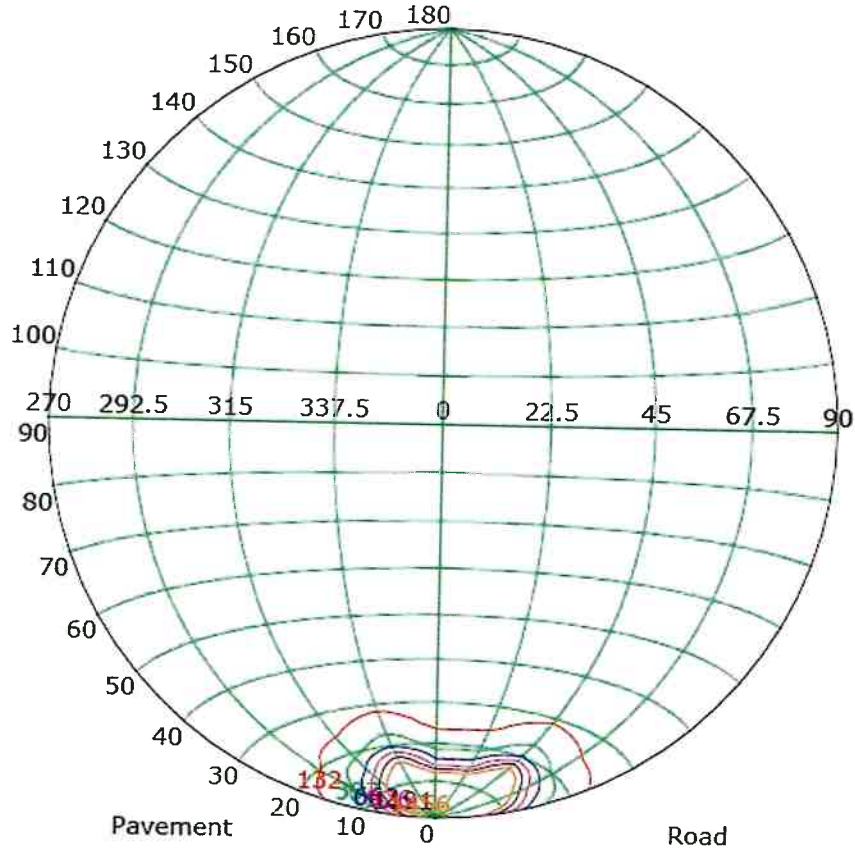
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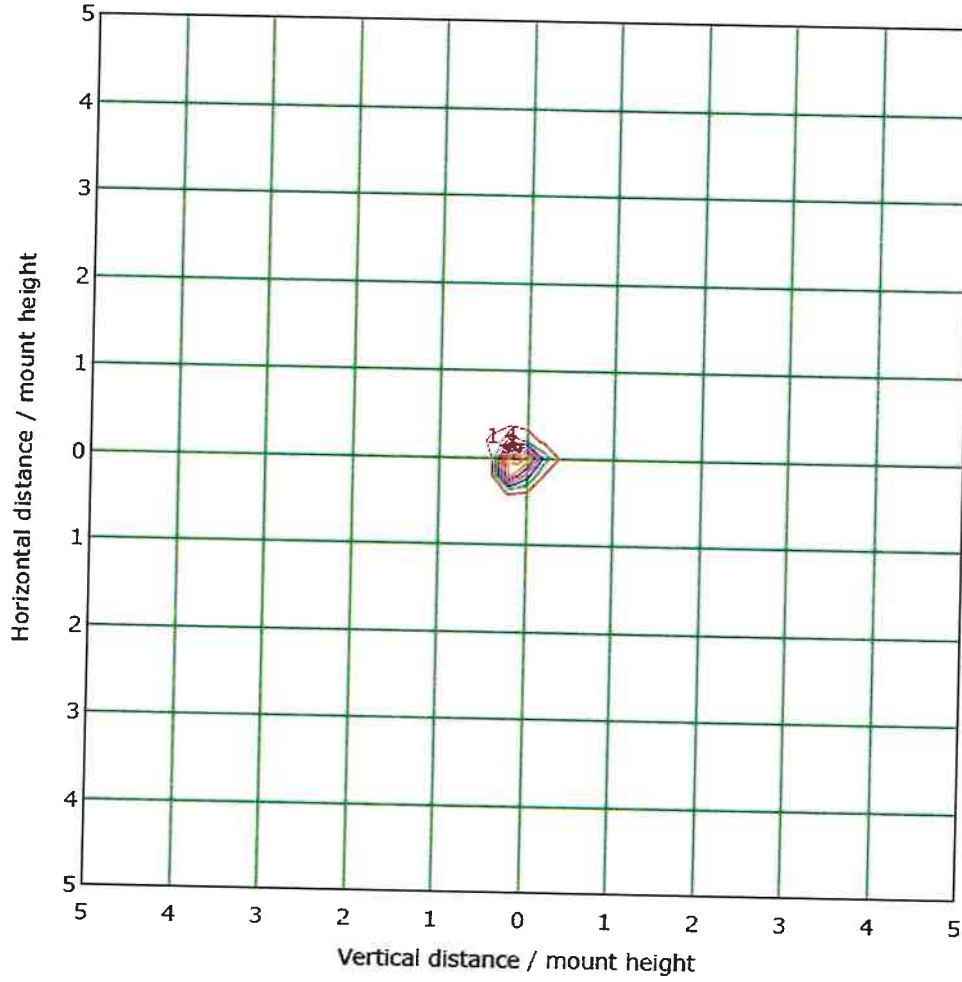
Isocandela (sphere)



I_{max} (100%): 2646 cd

— (5%): 132 cd	— (15%): 397 cd
— (25%): 662 cd	— (35%): 926 cd
— (45%): 1191 cd	— (55%): 1456 cd

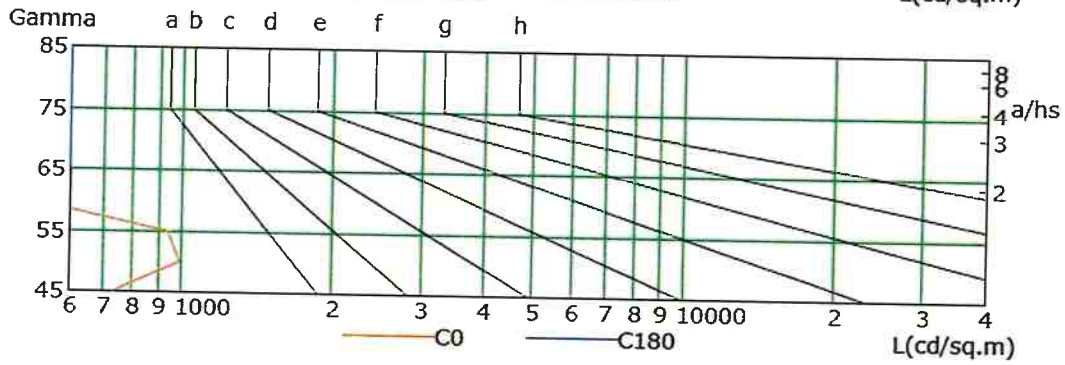
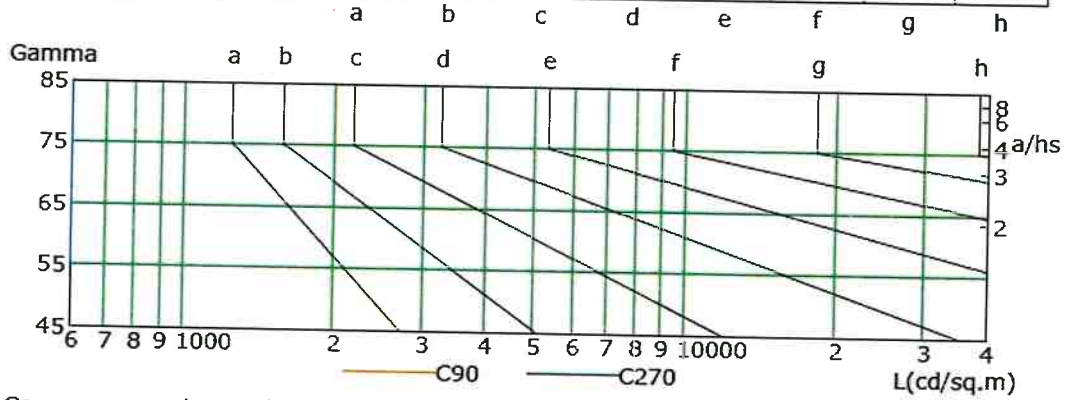
IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 26.5 lx
(5%): 1.3 lx (15%): 4.0 lx
(25%): 6.6 lx (35%): 9.3 lx
(45%): 11.9 lx (55%): 14.5 lx
(65%): 17.2 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	730	991	940	495	215	54	0	0	0
C90	604	462	333	269	97	0	0	0	0
C180	552	492	274	101	0	0	0	0	0
C270	135	22	0	0	0	0	0	0	0

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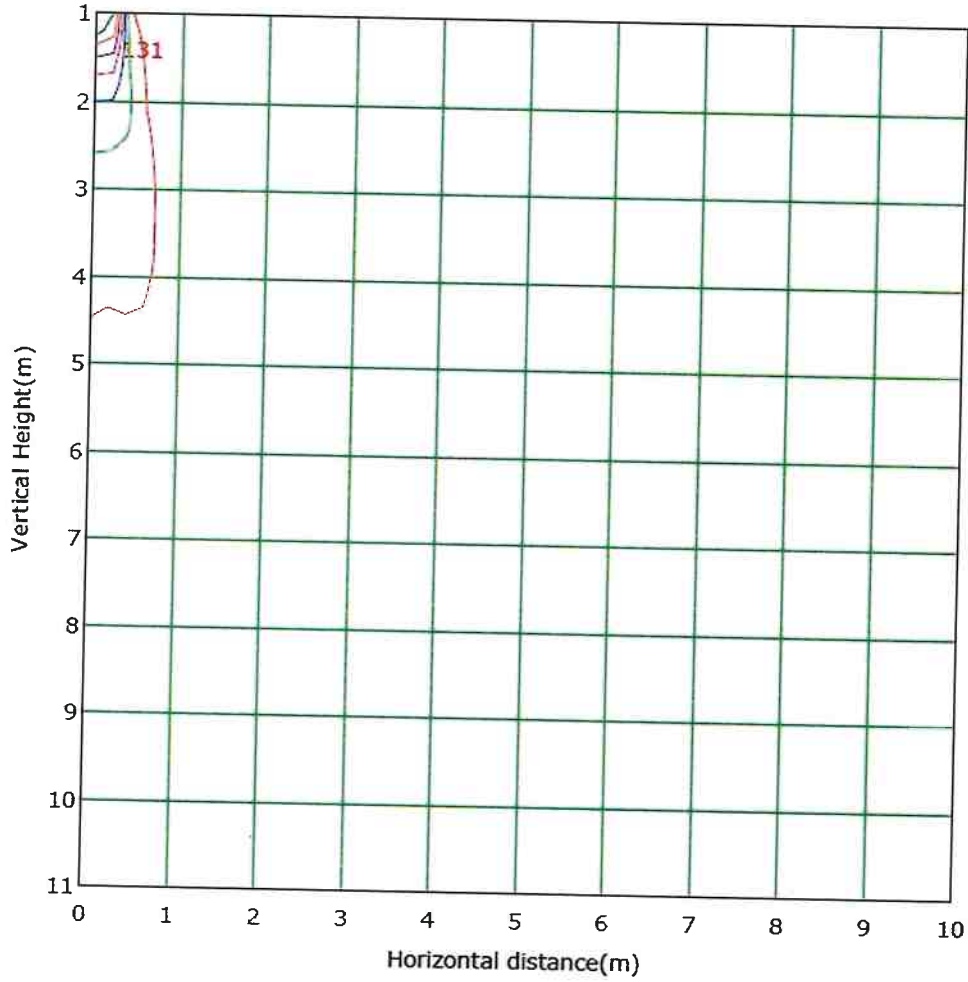
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Vertical IsoLux Plot



Lowest(m): 1.0m	Highest(m): 11.0m	Max Lux: 2610.3 lx
— (5%): 130.5 lx	— (15%): 391.5 lx	
— (25%): 652.6 lx	— (35%): 913.6 lx	
— (45%):1174.6 lx	— (55%):1435.7 lx	
— (65%):1696.7 lx		

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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	4.7	5.3	4.9	5.5	5.7	1.2	1.8	1.5	2.0	2.2
3H	4.7	5.2	5.0	5.5	5.7	1.1	1.6	1.4	1.9	2.1
4H	4.6	5.1	4.9	5.4	5.7	1.0	1.5	1.3	1.8	2.1
6H	4.5	5.0	4.9	5.3	5.6	0.9	1.4	1.3	1.7	2.0
8H	4.5	5.0	4.8	5.3	5.6	0.9	1.4	1.2	1.7	2.0
12H	4.5	4.9	4.8	5.2	5.5	0.9	1.3	1.2	1.6	1.9
X=4H Y=2H	4.6	5.1	4.9	5.4	5.7	1.5	2.0	1.8	2.2	2.5
3H	4.7	5.1	5.0	5.4	5.7	1.3	1.8	1.7	2.1	2.4
4H	4.6	5.0	5.0	5.3	5.7	1.3	1.7	1.6	2.0	2.4
6H	4.5	4.8	4.9	5.2	5.6	1.2	1.5	1.6	1.9	2.3
8H	4.4	4.8	4.9	5.2	5.6	1.1	1.4	1.5	1.8	2.3
12H	4.4	4.7	4.8	5.1	5.5	1.1	1.4	1.5	1.8	2.2
X=8H Y=4H	4.4	4.8	4.9	5.2	5.6	1.1	1.5	1.6	1.9	2.3
6H	4.3	4.6	4.8	5.0	5.5	1.0	1.3	1.5	1.7	2.2
8H	4.3	4.5	4.8	5.0	5.5	1.0	1.2	1.5	1.7	2.2
12H	4.2	4.4	4.7	4.9	5.4	0.9	1.1	1.4	1.6	2.1
X=12H Y=4H	4.4	4.7	4.8	5.1	5.5	1.1	1.4	1.5	1.8	2.2
6H	4.3	4.5	4.8	5.0	5.5	1.0	1.2	1.5	1.7	2.2
8H	4.2	4.4	4.7	4.9	5.4	0.9	1.1	1.4	1.6	2.1
Variations with the observer position at spacings:										
S=1.0H	+1.6/-1.7					+3.1/-3.6				
S=1.5H	+2.8/-3.7					+3.3/-7.4				
S=2.0H	+4.6/-7.7					+5.0/-12.7				

Calculate in accordance with CIE Pub.117. The table is revised with 365lm ($8\log(F/F_0) = -3.5$).

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	1.02	1.05	1.07	1.10	1.12	1.13	1.15	1.16
		0.30	0.93	0.98	1.01	1.04	1.07	1.09	1.11	1.13	1.14
		0.20	0.91	0.95	0.99	1.01	1.05	1.07	1.09	1.11	1.13
0.50	0.50	0.20	0.96	1.00	1.03	1.04	1.07	1.08	1.10	1.11	1.12
		0.30	0.93	0.97	1.00	1.02	1.05	1.06	1.08	1.09	1.11
		0.20	0.90	0.95	0.98	1.00	1.03	1.05	1.06	1.08	1.09
0.30	0.50	0.20	0.95	0.98	1.01	1.02	1.04	1.05	1.06	1.07	1.08
		0.30	0.92	0.96	0.98	1.00	1.02	1.04	1.05	1.06	1.07
		0.20	0.90	0.94	0.96	0.98	1.01	1.02	1.04	1.05	1.06
0.00	0.00	0.00	0.88	0.92	0.94	0.96	0.98	0.99	1.00	1.01	1.01

Rating:17W 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(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	0.46	0.37	0.32	0.27	0.22	0.18	0.15	0.12	0.10
		0.30	0.38	0.32	0.28	0.24	0.20	0.17	0.14	0.11	0.09
		0.20	0.33	0.28	0.24	0.22	0.18	0.15	0.13	0.11	0.09
0.50	0.50	0.20	0.43	0.35	0.29	0.25	0.20	0.21	0.14	0.11	0.09
		0.30	0.36	0.30	0.26	0.23	0.18	0.15	0.13	0.10	0.08
		0.20	0.32	0.27	0.23	0.20	0.17	0.14	0.12	0.10	0.08
0.30	0.50	0.20	0.41	0.32	0.27	0.23	0.18	0.15	0.13	0.10	0.08
		0.30	0.35	0.28	0.24	0.21	0.17	0.14	0.12	0.09	0.07
		0.20	0.30	0.25	0.22	0.19	0.15	0.13	0.11	0.09	0.07
0.00	0.00	0.00	0.15	0.12	0.09	0.08	0.06	0.05	0.04	0.03	0.02

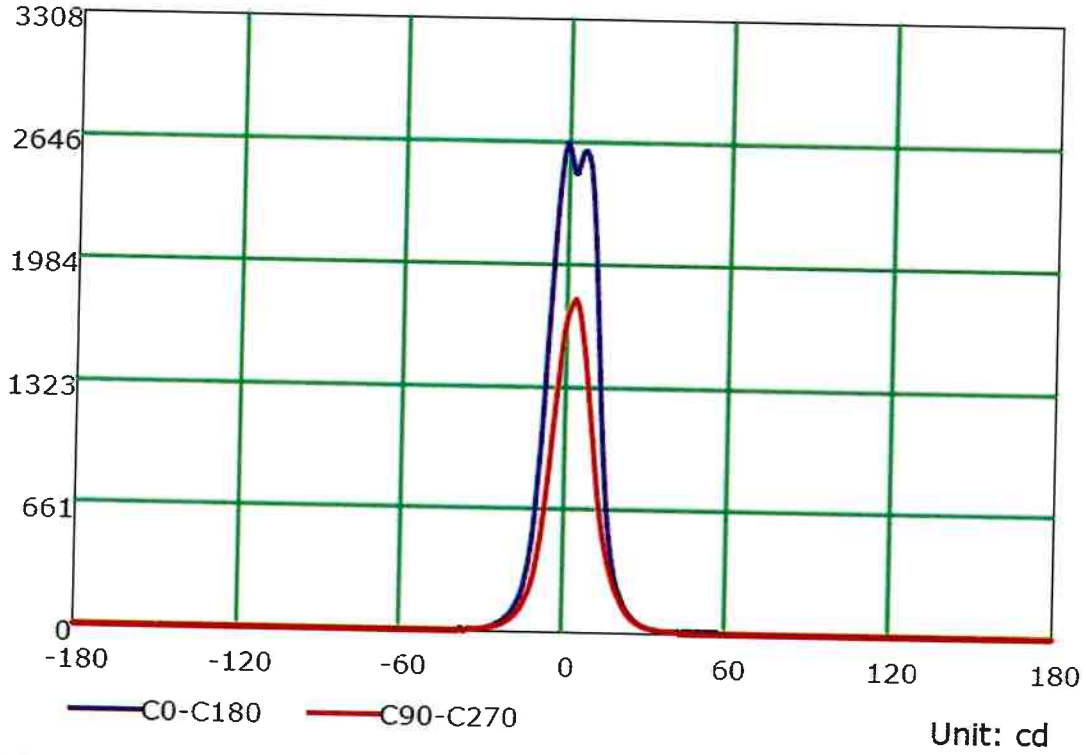
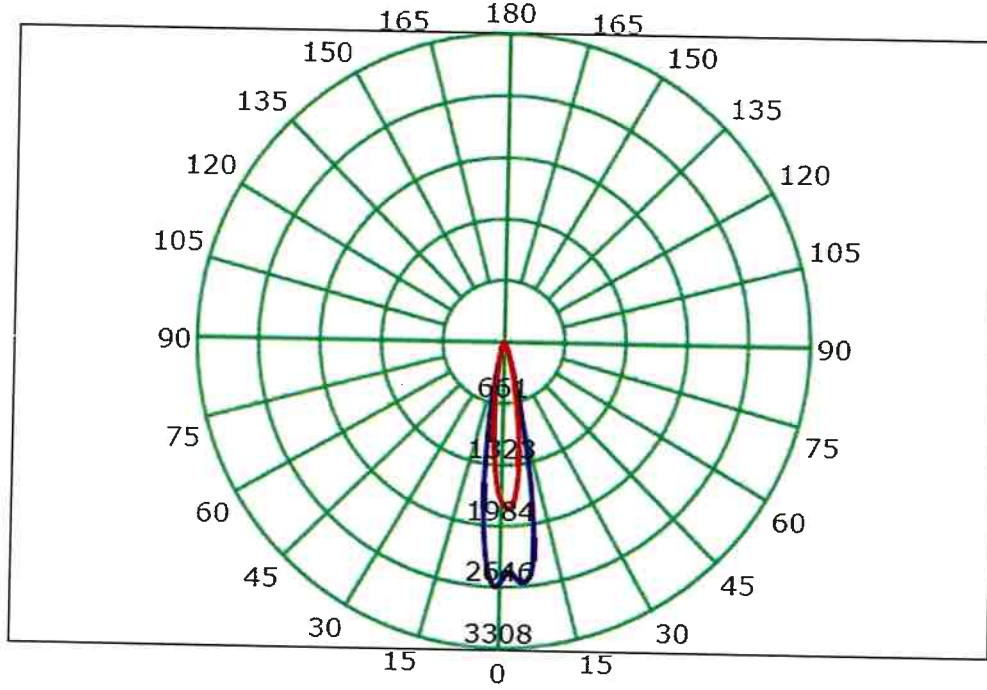
Rating:17W Photometrically tested without ceiling board.
 Multiply UF values by service correction factors
 Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

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	0.13	0.15	0.16	0.17	0.18	0.20	0.20	0.21	0.22	
	0.30		0.09	0.12	0.13	0.14	0.16	0.18	0.19	0.20	0.21	
	0.20		0.07	0.09	0.11	0.12	0.15	0.16	0.17	0.19	0.20	
0.50	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	0.13	0.14	0.16	0.17	0.18	0.19	0.20	
	0.20		0.07	0.09	0.11	0.12	0.14	0.16	0.17	0.18	0.19	
0.30	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	0.13	0.14	0.15	0.17	0.17	0.19	0.19	
	0.20		0.07	0.09	0.11	0.12	0.14	0.15	0.16	0.18	0.18	
0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	

Rating:17W Photometrically tested without ceiling board.
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Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

Luminous Intensity Distribution Curve



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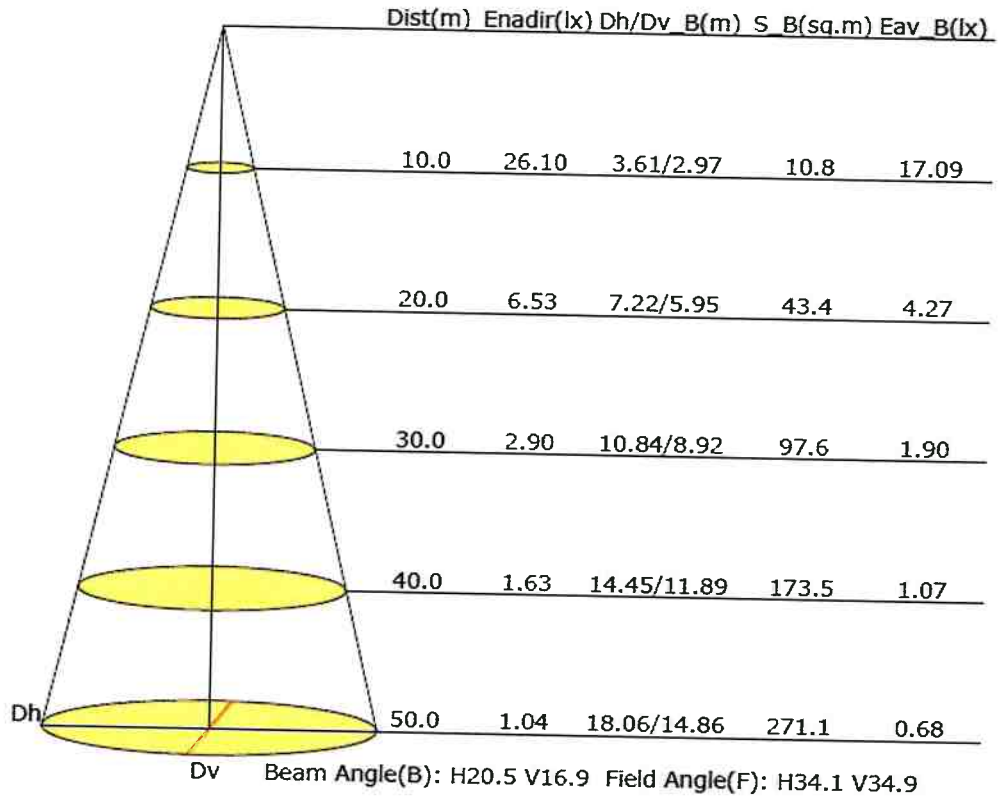
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Illuminance at a Distance



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DENEY RAPORU / TEST REPORT

Deney Rapor No / Test Report No: 171801-864-5

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