

IDEA

/DUORO R 06.AA28.2030.__



Light Output Ratio:	100.0%	
Luminaire Power:	13.48 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.55	fine grid method.

C Range: 0 - 360DEG
C Interval: 15 0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Test Date: 2020-09-09

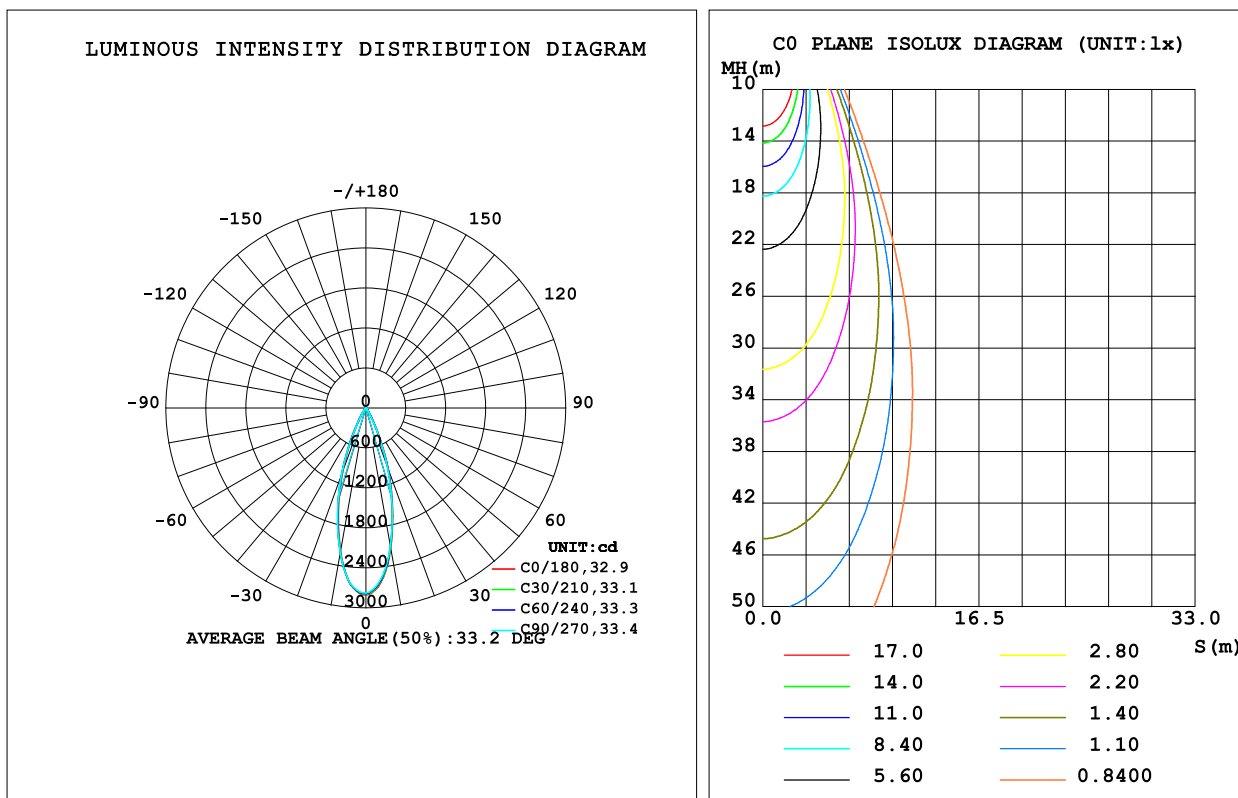
γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity: 65.0%
Test Distance: 9.060m [K=1.0000]



LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:221.22V I:0.0633A P:13.483W PF:0.9620 Freq:49.99Hz Lamp Flux:984.487x1 lm		
NAME: DUORO	TYPE:	WEIGHT:
SPEC.:14W 350mA 2700K 38° CRI80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 73.02 lm/W
MODEL		I _{max} (cd)	2803	S/MH (C0/180)		0.55
NOMINAL POWER (W)	14	LOR (%)	100.0	S/MH (C90/270)		0.57
RATED VOLTAGE (V)		TOTAL FLUX (lm)	984.49	η UP, DN (C0-180)		0.0, 48.3
NOMINAL FLUX (lm)	984.487	CIE CLASS	DIRECT	η UP, DN (C180-360)		0.0, 51.7
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.50
TEST VOLTAGE (V)		η down (%)	100.0	CIBSE SHR MAX		



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ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2149	2146	2114	2118	2190	2188	2218	2172	0- 10	235.0	235.0	23.9, 23.9
20	987.9	976.9	966.3	965.0	1035	1072	1086	1042	10- 20	429.9	664.9	67.5, 67.5
30	194.5	185.3	178.8	176.8	205.0	226.1	222.4	208.7	20- 30	238.8	903.7	91.8, 91.8
40	40.68	38.51	35.70	36.20	42.50	44.94	44.15	42.66	30- 40	57.92	961.6	97.7, 97.7
50	12.09	11.70	11.01	11.10	13.49	13.00	12.64	12.03	40- 50	17.97	979.6	99.5, 99.5
60	0.4926	0.4483	0.4540	0.5350	0.7194	0.7869	0.6562	0.5929	50- 60	4.507	984.1	100, 100
70	0.1876	0.1438	0.1485	0.1350	0.1611	0.2180	0.1566	0.2093	60- 70	0.2976	984.4	100, 100
80	0.0087	0	0.0175	0.0044	0.0305	0.0567	0.0131	0.0218	70- 80	0.0709	984.5	100, 100
90	0	0	0	0	0	0	0	0	80- 90	0.0080	984.5	100, 100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 972.85 lm

%lum = 98.8%

%lamp = 98.8%

Conical surface Flux(120deg): 984.11 lm

%lum = 100.0%

%lamp = 100.0%

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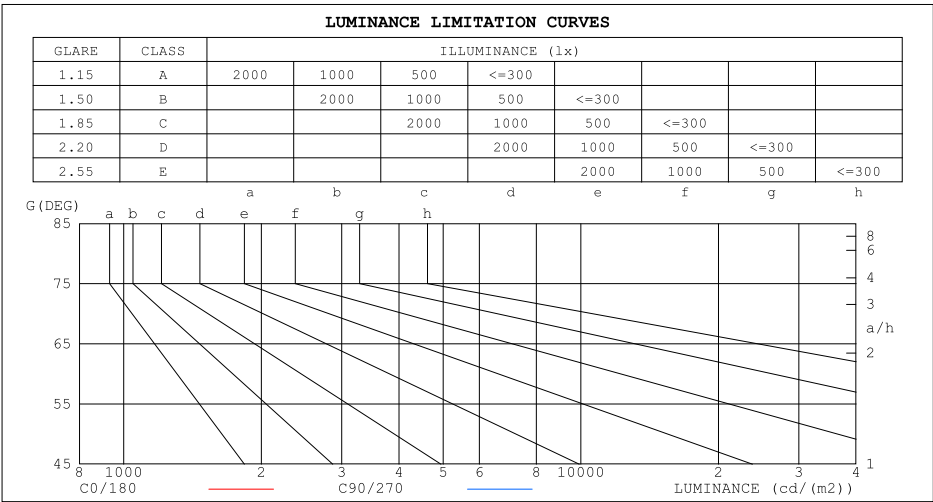


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LUMINANCE LIMITATION CURVES

Test:U:221.22V I:0.0633A P:13.483W PF:0.9620 Freq:49.99Hz Lamp Flux:984.487x1 lm		
NAME: DUORO	TYPE:	WEIGHT:
SPEC.:14W 350mA 2700K 38° CRI80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	0	0
80	1	1
75	1	1
70	5	4
65	6	6
60	10	9
55	60	58
50	188	171
45	320	279

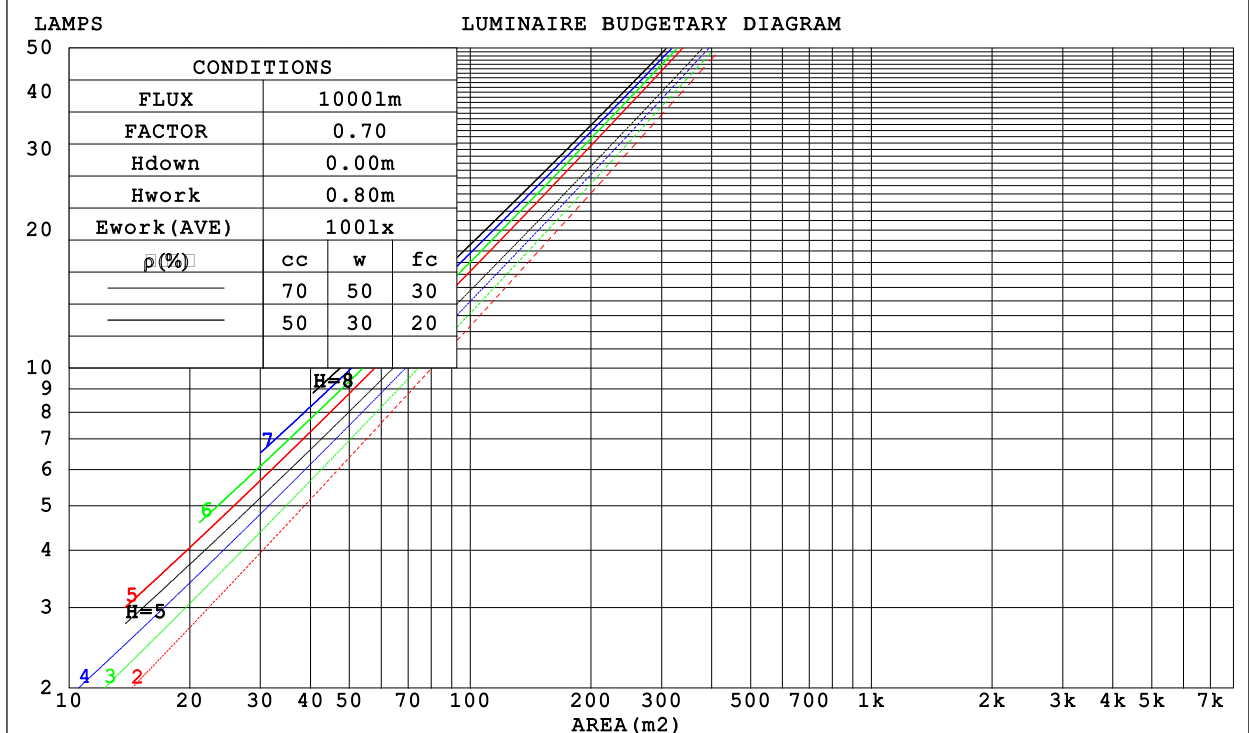
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00														
1.0	1.12	1.10	1.08	1.10	1.08	1.07	1.06	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96														
2.0	1.06	1.03	1.00	1.05	1.02	.99	1.02	.99	.97	.99	.97	.95	.96	.94	.93	.92														
3.0	1.01	.97	.94	.90	.96	.93	.97	.94	.92	.95	.92	.90	.93	.91	.89	.88														
4.0	.96	.92	.89	.95	.91	.88	.93	.90	.87	.91	.88	.86	.90	.87	.85	.84														
5.0	.92	.87	.84	.91	.87	.84	.89	.86	.83	.88	.85	.82	.87	.84	.82	.80														
6.0	.88	.83	.80	.87	.83	.80	.86	.82	.79	.85	.81	.79	.84	.81	.78	.77														
7.0	.85	.80	.77	.84	.80	.76	.83	.79	.76	.82	.78	.76	.81	.78	.75	.74														
8.0	.81	.77	.73	.81	.76	.73	.80	.76	.73	.79	.75	.73	.78	.75	.72	.71														
9.0	.78	.74	.71	.78	.73	.70	.77	.73	.70	.76	.73	.70	.75	.72	.70	.69														
10.0	.75	.71	.68	.75	.71	.68	.74	.70	.68	.74	.70	.67	.73	.70	.67	.66														



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WEC AND CCEC

pcc	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	.149	.085	.027	.142	.081	.026	.130	.074	.024	.118	.068	.022	.108	.062	.020	
2.0	.139	.076	.023	.134	.074	.023	.124	.069	.021	.114	.064	.020	.105	.060	.019	
3.0	.131	.070	.021	.126	.068	.020	.118	.064	.019	.110	.060	.018	.102	.057	.018	
4.0	.124	.064	.019	.120	.063	.019	.113	.060	.018	.106	.057	.017	.099	.054	.016	
5.0	.117	.060	.017	.114	.059	.017	.108	.056	.017	.102	.054	.016	.096	.051	.015	
6.0	.112	.056	.016	.109	.055	.016	.103	.053	.015	.098	.051	.015	.093	.049	.015	
7.0	.106	.053	.015	.104	.052	.015	.099	.050	.014	.095	.049	.014	.090	.047	.014	
8.0	.102	.050	.014	.100	.049	.014	.095	.048	.014	.091	.046	.013	.088	.045	.013	
9.0	.098	.047	.013	.096	.047	.013	.092	.045	.013	.088	.044	.013	.085	.043	.012	
10.0	.094	.045	.012	.092	.044	.012	.089	.043	.012	.085	.042	.012	.082	.041	.012	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.116	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013	
3.0	.138	.113	.094	.118	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.126	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.116	.086	.064	.100	.074	.056	.069	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.108	.076	.054	.093	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.101	.068	.046	.086	.059	.040	.060	.042	.028	.035	.024	.017	.011	.008	.006	
8.0	.094	.062	.039	.081	.054	.034	.056	.038	.024	.033	.022	.015	.011	.007	.005	
9.0	.089	.056	.034	.077	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.084	.052	.030	.073	.045	.026	.050	.032	.019	.029	.019	.011	.010	.006	.004	

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UGR(Unified Glare Rating) 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	-0.3	0.5	-0.1	0.6	0.8	-0.8	-0.1	-0.6	0.1	0.2
3H	-0.4	0.2	-0.2	0.4	0.6	-1.0	-0.3	-0.7	-0.1	0.1
4H	-0.5	0.1	-0.3	0.3	0.6	-1.1	-0.4	-0.8	-0.2	0.0
6H	-0.6	0.0	-0.3	0.2	0.5	-1.1	-0.5	-0.9	-0.3	-0.1
8H	-0.7	-0.1	-0.4	0.2	0.4	-1.2	-0.6	-0.9	-0.4	-0.1
12H	-0.7	-0.1	-0.4	0.1	0.4	-1.2	-0.7	-0.9	-0.4	-0.1
4H 2H	-0.5	0.1	-0.3	0.3	0.6	-1.0	-0.4	-0.8	-0.2	0.0
3H	-0.7	-0.1	-0.4	0.1	0.4	-1.2	-0.7	-0.9	-0.4	-0.1
4H	-0.8	-0.3	-0.4	0.0	0.3	-1.3	-0.8	-1.0	-0.5	-0.2
6H	-0.9	-0.4	-0.5	-0.1	0.2	-1.4	-1.0	-1.0	-0.6	-0.3
8H	-0.9	-0.5	-0.5	-0.2	0.2	-1.5	-1.0	-1.1	-0.7	-0.3
12H	-1.0	-0.6	-0.6	-0.2	0.2	-1.5	-1.1	-1.1	-0.8	-0.4
8H 4H	-0.9	-0.5	-0.5	-0.2	0.2	-1.5	-1.0	-1.1	-0.7	-0.3
6H	-1.0	-0.7	-0.6	-0.3	0.1	-1.6	-1.2	-1.2	-0.8	-0.4
8H	-1.1	-0.8	-0.7	-0.4	0.1	-1.6	-1.3	-1.2	-0.9	-0.5
12H	-1.2	-0.9	-0.7	-0.5	0.0	-1.7	-1.4	-1.2	-1.0	-0.5
12H 4H	-1.0	-0.6	-0.6	-0.2	0.2	-1.5	-1.1	-1.1	-0.8	-0.4
6H	-1.1	-0.8	-0.7	-0.4	0.1	-1.6	-1.3	-1.2	-0.9	-0.5
8H	-1.2	-0.9	-0.7	-0.5	0.0	-1.7	-1.4	-1.2	-1.0	-0.5
Variations with the observer position at spacings:										
S = 1.0H	+ 3.3 / -18.2					+ 3.0 / -18.3				
1.5H	+ 4.5 / -15.9					+ 4.3 / -15.6				
2.0H	+ 5.9 / -18.4					+ 5.7 / -18.3				

CIE Pub.117, 984.5 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.1)
Area: 0.1 m2

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UTILIZATION FACTORS TABLE

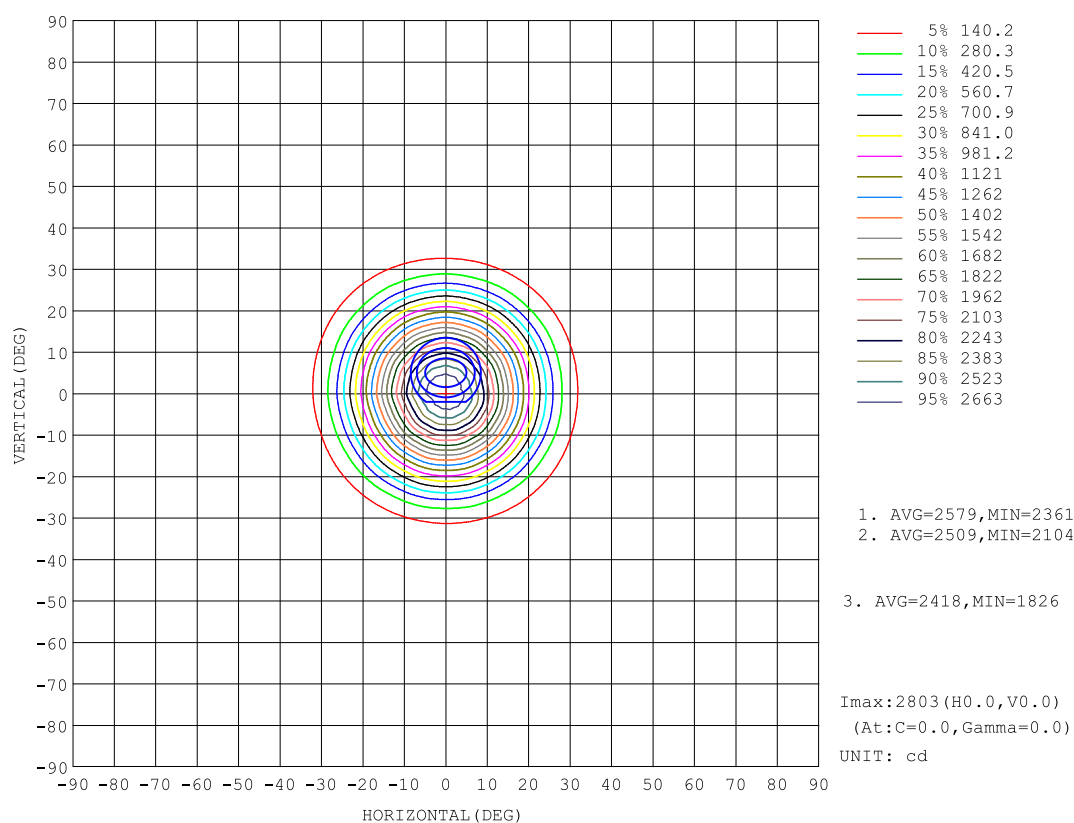
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	88	97	92	88	95	91	88	85
1.00	101	96	93	100	96	92	99	95	92	88
1.25	105	100	97	104	100	97	102	98	96	92
1.50	107	103	100	106	102	99	104	101	98	94
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	106	104	106	104	102	96
3.00	112	109	107	111	108	106	107	105	104	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	116	114	112	113	112	110	110	108	107	100
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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ISOCANDELA DIAGRAM

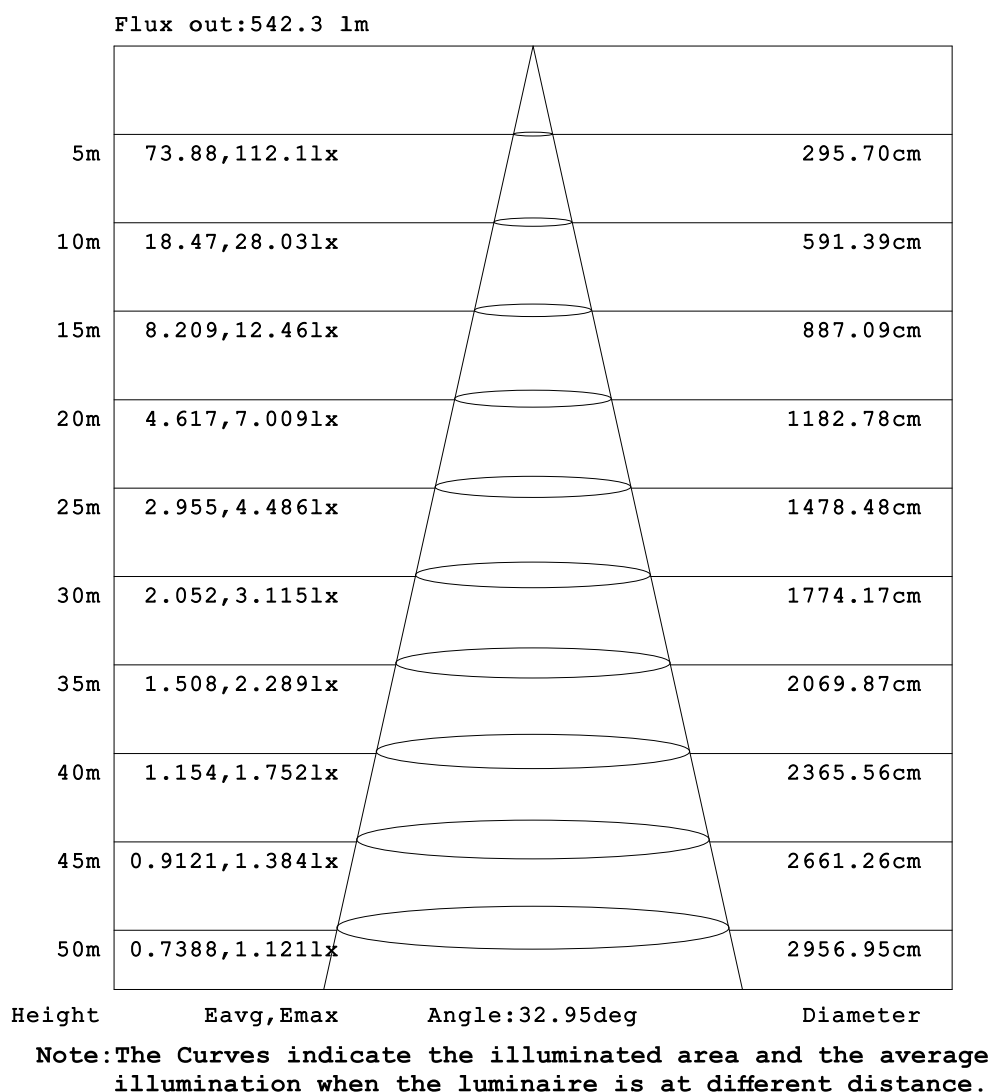


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AAI Figure

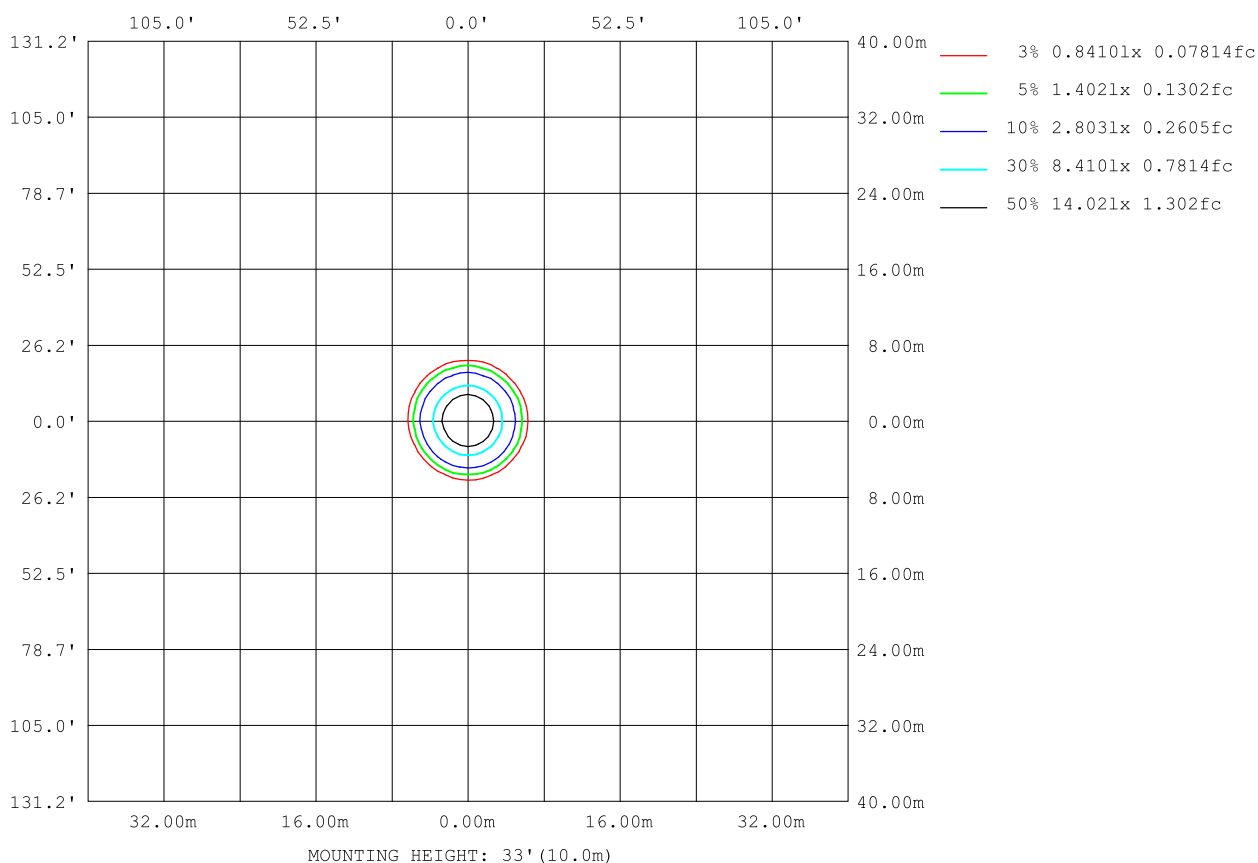


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ISOLUX DIAGRAM



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LED Avg.L Report

AvgL	cd/m2
L_0~180 (65) av	6
L_0~180 (75) av	2
L_0~180 (85) av	1
L_90~270 (65) av	6
L_90~270 (75) av	1
L_90~270 (85) av	0
L_45 (65) av	6
L_45 (75) av	2
L_45 (85) av	1

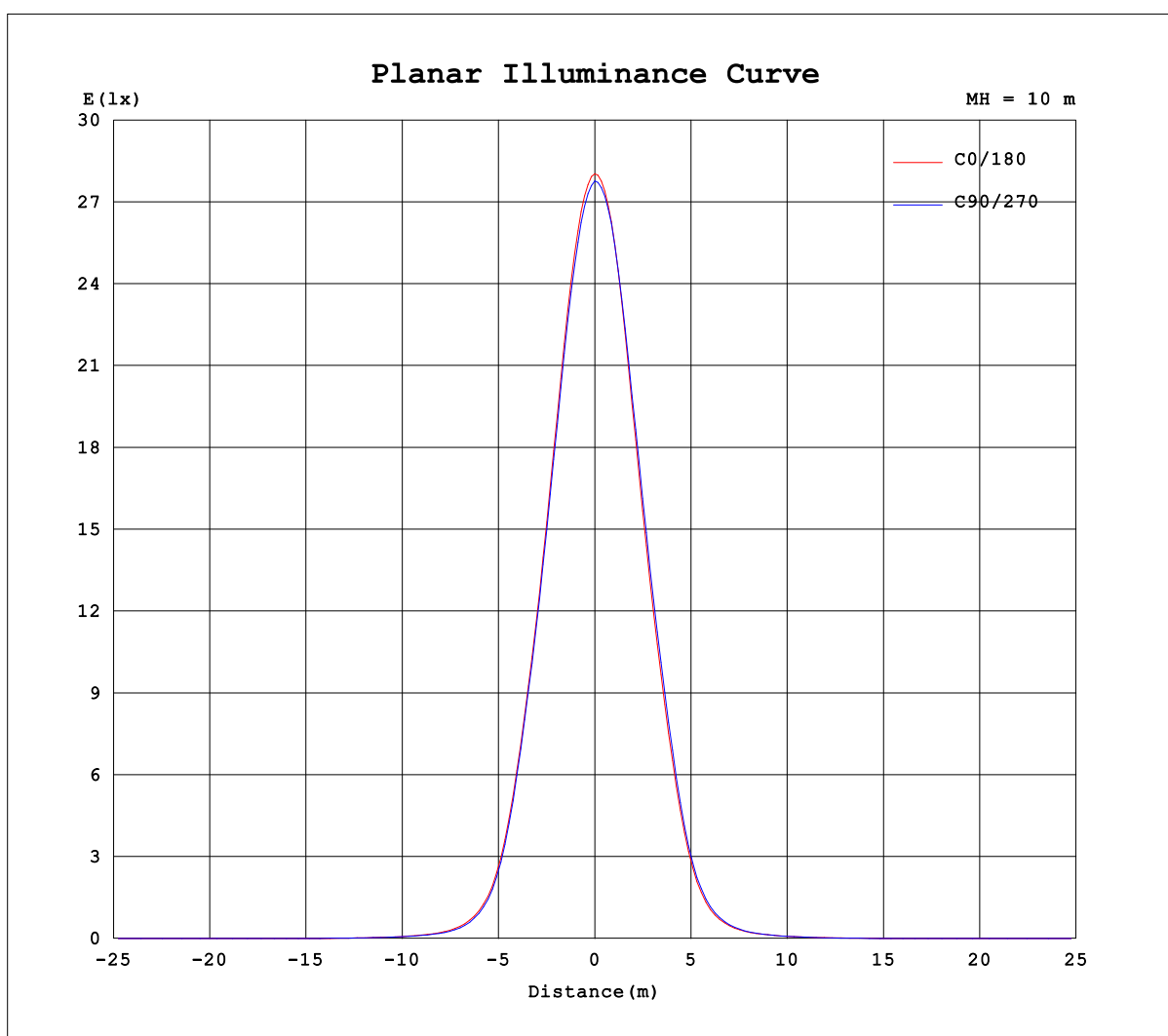
Standard: GB/T 29293-2012

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Planar Illuminance Curve



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LUMINOUS DISTRIBUTION INTENSITY DATA

Table--2

UNIT: cd

[illegible]

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