

LED Downlight SENSE Series S100R1-DW-13W-930-M



Light Output Ratio:	100.0%	
Luminaire Power:	13.71 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.65	fine grid method.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason
Test Date: 2020-12-15

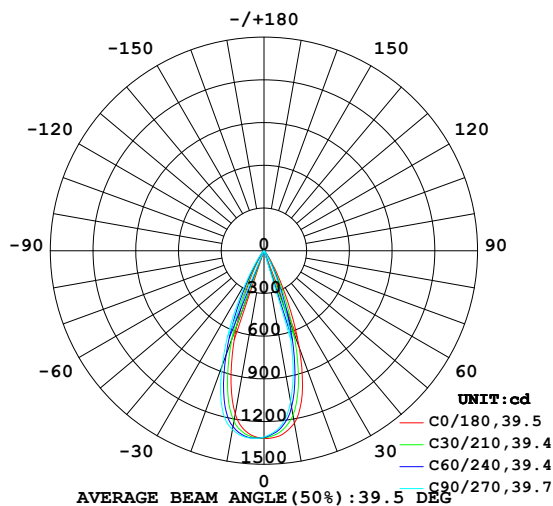
γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 58%
Test Distance: 8.967m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

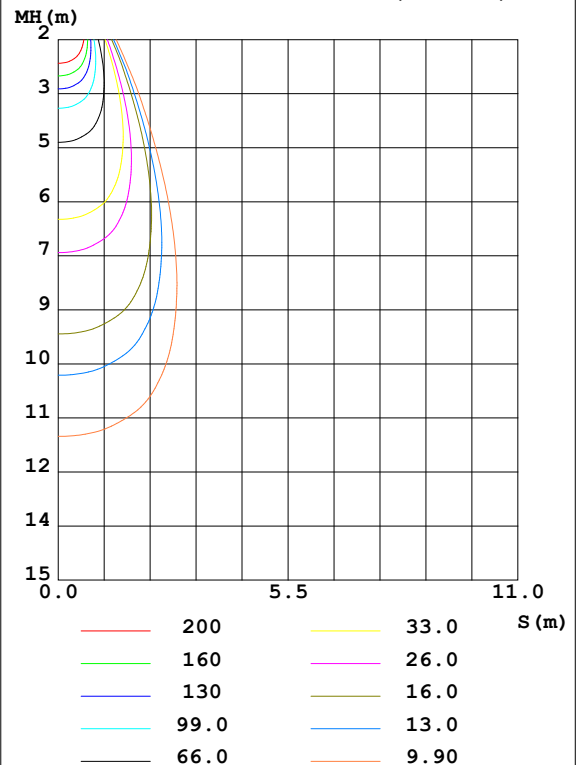
Test:U:220.8V I:0.0637A P:13.71W PF:0.9738 Freq:49.99Hz Lamp Flux:589.857x1 lm		
NAME: S100R1-DW-13W-930-M	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 108mm*H126mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 43.03 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	1320	S/MH (C0/180)	0.58
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	0.69
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	589.86	η UP, DN (C0-180)	0.0, 42.7
NOMINAL FLUX (lm)	589.857	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 57.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.65

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



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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	1230	1148	1076	1084	1164	1237	1276	1265	0- 10	119.5	119.5	20.3,20.3
20	727.7	559.7	444.3	455.7	562.9	715.8	863.2	852.2	10- 20	259.5	379.0	64.2,64.2
30	176.3	110.7	79.46	81.90	106.9	156.4	234.5	239.4	20- 30	160.9	539.9	91.5,91.5
40	29.67	18.30	13.15	13.10	16.73	23.68	35.62	38.26	30- 40	40.73	580.6	98.4,98.4
50	4.071	2.283	1.709	1.673	1.944	3.034	5.150	5.556	40- 50	7.864	588.5	99.8,99.8
60	0.5460	0.2357	0.1598	0.0974	0.1790	0.4171	0.6557	0.7206	50- 60	1.215	589.7	100,100
70	0.0668	0.0102	0.0463	0.0051	0.0103	0.0617	0.0154	0.0566	60- 70	0.1177	589.8	100,100
80	0.0257	0.0051	0.0205	0.0051	0.0103	0.0257	0.0103	0.0308	70- 80	0.0238	589.8	100,100
90	0.0051	0.0051	0.0103	0.0051	0.0103	0.0154	0.0103	0.0154	80- 90	0.0134	589.9	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): 586.24 lm

%lum = 99.4%

%lamp = 99.4%

Conical surface Flux(120deg): 589.7 lm

%lum = 100.0%

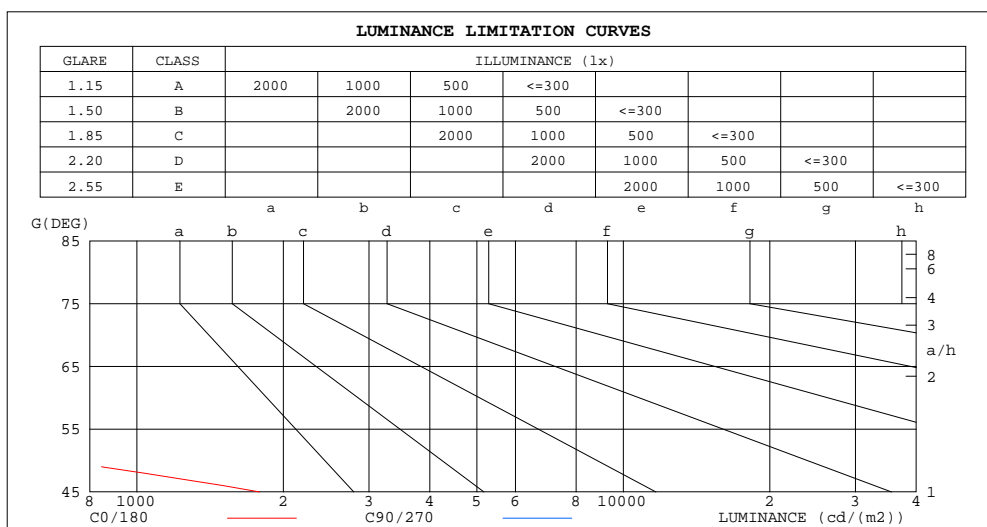
%lamp = 100.0%

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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
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Humidity:58%
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Remarks:

LUMINANCE LIMITATION CURVES

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SPEC.:3000K	DIM.: ϕ 108mm*H126mm	
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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	26	19
80	16	13
75	17	13
70	21	15
65	24	21
60	119	35
55	301	126
50	692	290
45	1787	719

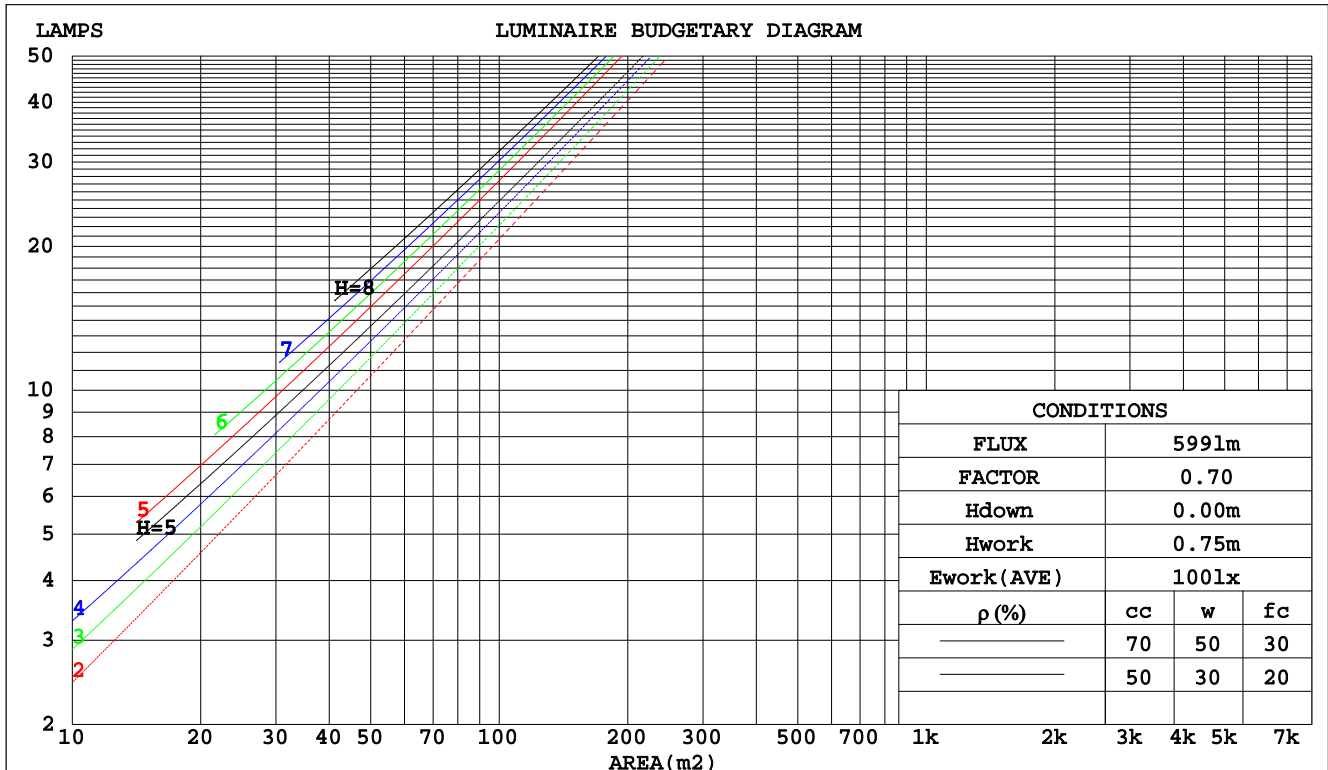
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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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	1.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96
2.0	1.06	1.03	.00	1.04	1.01	.99	1.01	.99	.97	.98	.96	.95	.96	.94	.93	.91
3.0	1.01	.97	.93	.99	.96	.93	.97	.94	.91	.94	.92	.90	.92	.90	.88	.87
4.0	.96	.91	.88	.95	.90	.87	.93	.89	.86	.91	.88	.85	.89	.86	.84	.83
5.0	.91	.87	.83	.90	.86	.83	.89	.85	.82	.87	.84	.81	.86	.83	.81	.79
6.0	.87	.82	.79	.86	.82	.79	.85	.81	.78	.84	.80	.78	.83	.80	.77	.76
7.0	.83	.79	.75	.83	.78	.75	.82	.78	.75	.81	.77	.74	.80	.76	.74	.73
8.0	.80	.75	.72	.80	.75	.72	.79	.74	.71	.78	.74	.71	.77	.73	.71	.70
9.0	.77	.72	.69	.76	.72	.69	.76	.71	.69	.75	.71	.68	.74	.71	.68	.67
10.0	.74	.69	.66	.74	.69	.66	.73	.69	.66	.72	.68	.66	.71	.68	.66	.64



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WEC AND CCEC

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ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.151	.086	.027	.145	.083	.026	.132	.076	.024	.121	.070	.022	.110	.064	.021		
2.0	.142	.078	.024	.137	.075	.023	.126	.070	.022	.117	.066	.021	.108	.061	.019		
3.0	.134	.071	.021	.129	.069	.021	.121	.065	.020	.113	.062	.019	.105	.058	.018		
4.0	.127	.066	.019	.123	.064	.019	.115	.061	.018	.109	.058	.018	.102	.055	.017		
5.0	.120	.061	.018	.117	.060	.017	.111	.058	.017	.105	.055	.016	.099	.053	.016		
6.0	.115	.057	.016	.112	.056	.016	.106	.054	.016	.101	.052	.015	.096	.051	.015		
7.0	.110	.054	.015	.107	.053	.015	.102	.052	.015	.098	.050	.015	.093	.048	.014		
8.0	.105	.051	.014	.103	.051	.014	.098	.049	.014	.094	.048	.014	.090	.046	.014		
9.0	.101	.049	.014	.099	.048	.013	.095	.047	.013	.091	.046	.013	.088	.045	.013		
10.0	.097	.046	.013	.095	.046	.013	.092	.045	.013	.088	.044	.012	.085	.043	.012		

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.116	.130	.114	.100	.089	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.138	.113	.094	.119	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.127	.098	.077	.109	.085	.067	.075	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.117	.086	.064	.100	.075	.055	.069	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.109	.077	.053	.093	.066	.046	.064	.046	.033	.037	.027	.020	.012	.009	.006	
7.0	.102	.069	.045	.087	.059	.040	.060	.042	.028	.035	.025	.017	.011	.008	.006	
8.0	.096	.062	.039	.082	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.090	.057	.034	.078	.049	.030	.054	.035	.021	.031	.020	.013	.010	.007	.004	
10.0	.086	.052	.030	.074	.045	.026	.051	.032	.018	.030	.019	.011	.010	.006	.004	

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 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.8V I:0.0637A P:13.71W PF:0.9738 Freq:49.99Hz Lamp Flux:589.857x1 lm										
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MFR.: NEKO LIGHTING AG										
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	8.9	9.7	9.1	9.8	10.0	5.3	6.1	5.5	6.2	6.4
3H	8.7	9.4	9.0	9.6	9.8	5.1	5.8	5.4	6.0	6.2
4H	8.7	9.3	8.9	9.5	9.7	5.1	5.7	5.3	5.9	6.1
6H	8.6	9.2	8.9	9.4	9.7	5.0	5.6	5.3	5.8	6.1
8H	8.5	9.1	8.8	9.4	9.6	4.9	5.5	5.2	5.8	6.0
12H	8.5	9.1	8.8	9.3	9.6	4.9	5.5	5.2	5.7	6.0
4H 2H	8.7	9.3	8.9	9.5	9.7	5.1	5.7	5.3	5.9	6.2
3H	8.5	9.1	8.8	9.3	9.6	4.9	5.5	5.2	5.7	6.0
4H	8.4	8.9	8.7	9.2	9.5	4.8	5.3	5.1	5.6	5.9
6H	8.3	8.8	8.7	9.1	9.4	4.7	5.2	5.1	5.5	5.8
8H	8.2	8.7	8.6	9.0	9.4	4.6	5.1	5.0	5.4	5.8
12H	8.2	8.6	8.6	8.9	9.3	4.6	5.0	5.0	5.3	5.7
8H 4H	8.2	8.7	8.6	9.0	9.4	4.6	5.1	5.0	5.4	5.8
6H	8.1	8.5	8.5	8.9	9.3	4.5	4.9	4.9	5.3	5.7
8H	8.1	8.4	8.5	8.8	9.2	4.5	4.8	4.9	5.2	5.6
12H	8.0	8.3	8.5	8.7	9.2	4.4	4.7	4.9	5.1	5.6
12H 4H	8.2	8.6	8.6	8.9	9.3	4.6	5.0	5.0	5.3	5.7
6H	8.1	8.4	8.5	8.8	9.2	4.5	4.8	4.9	5.2	5.6
8H	8.0	8.3	8.5	8.7	9.2	4.4	4.7	4.9	5.1	5.6
Variations with the observer position at spacings:										
S = 1.0H	+ 4.4 / -16.1					+ 3.2 / -17.5				
1.5H	+ 6.8 / -13.2					+ 5.6 / -11.6				
2.0H	+ 8.1 / -19.3					+ 6.4 / -16.8				

CIE Pub.117, 589.9 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = -1.8$)

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UTILIZATION FACTORS TABLE

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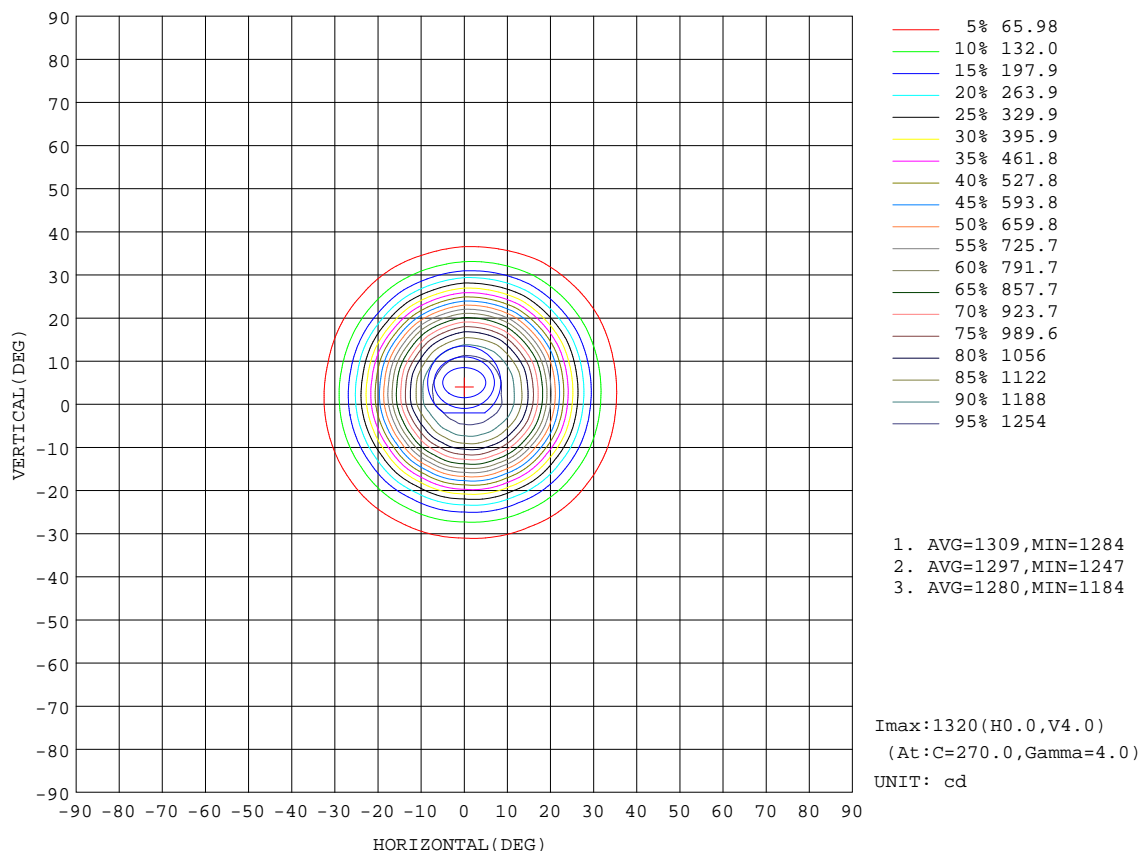
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	81	90	85	81	89	84	81	78
0.80	98	92	89	97	92	89	96	91	88	85
1.00	101	96	93	101	96	93	99	96	92	89
1.25	105	100	97	104	100	97	102	99	96	92
1.50	108	103	100	106	103	100	104	101	99	95
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	107	104	107	104	102	97
3.00	113	109	107	111	108	106	108	105	104	98
4.00	114	112	110	112	110	109	109	107	106	99
5.00	116	114	112	114	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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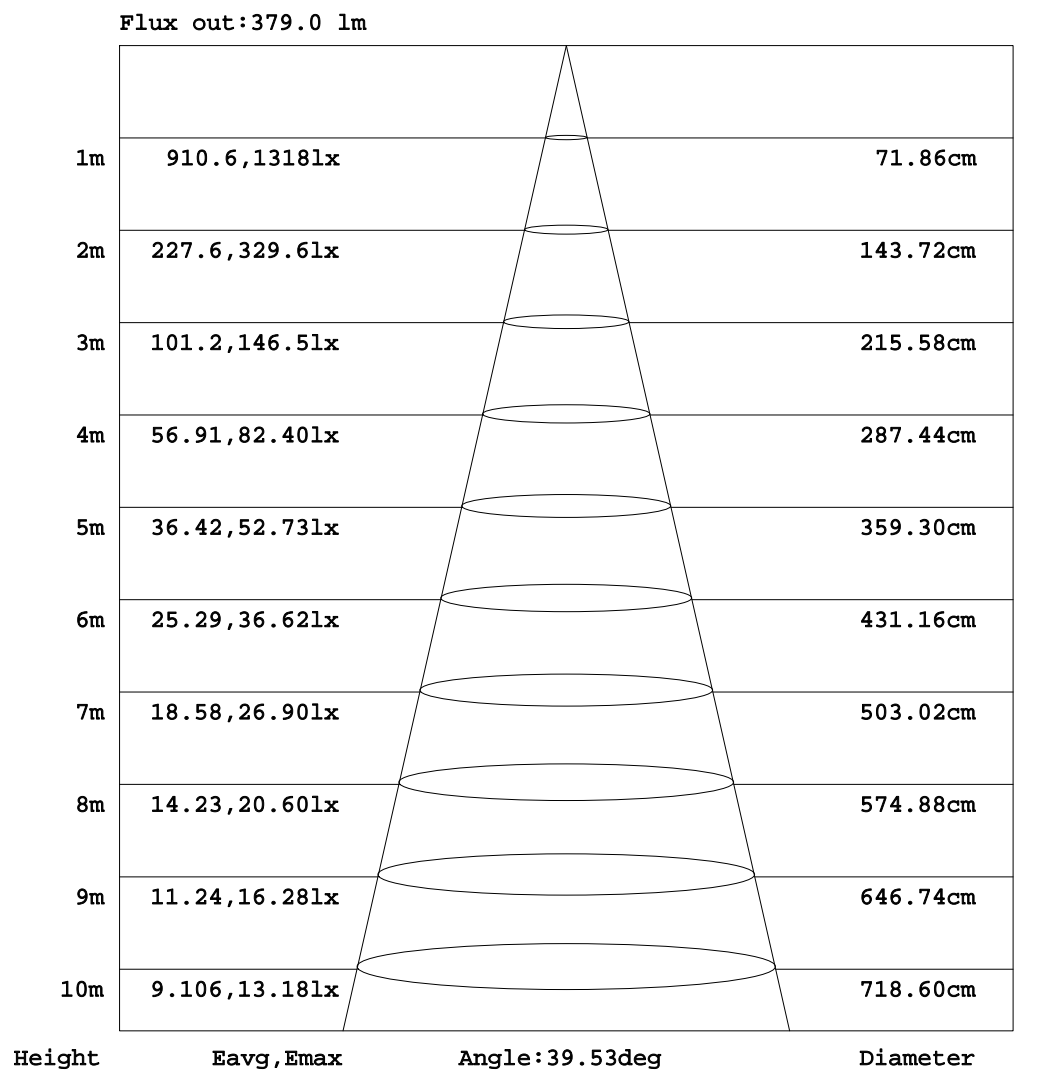


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AAI Figure

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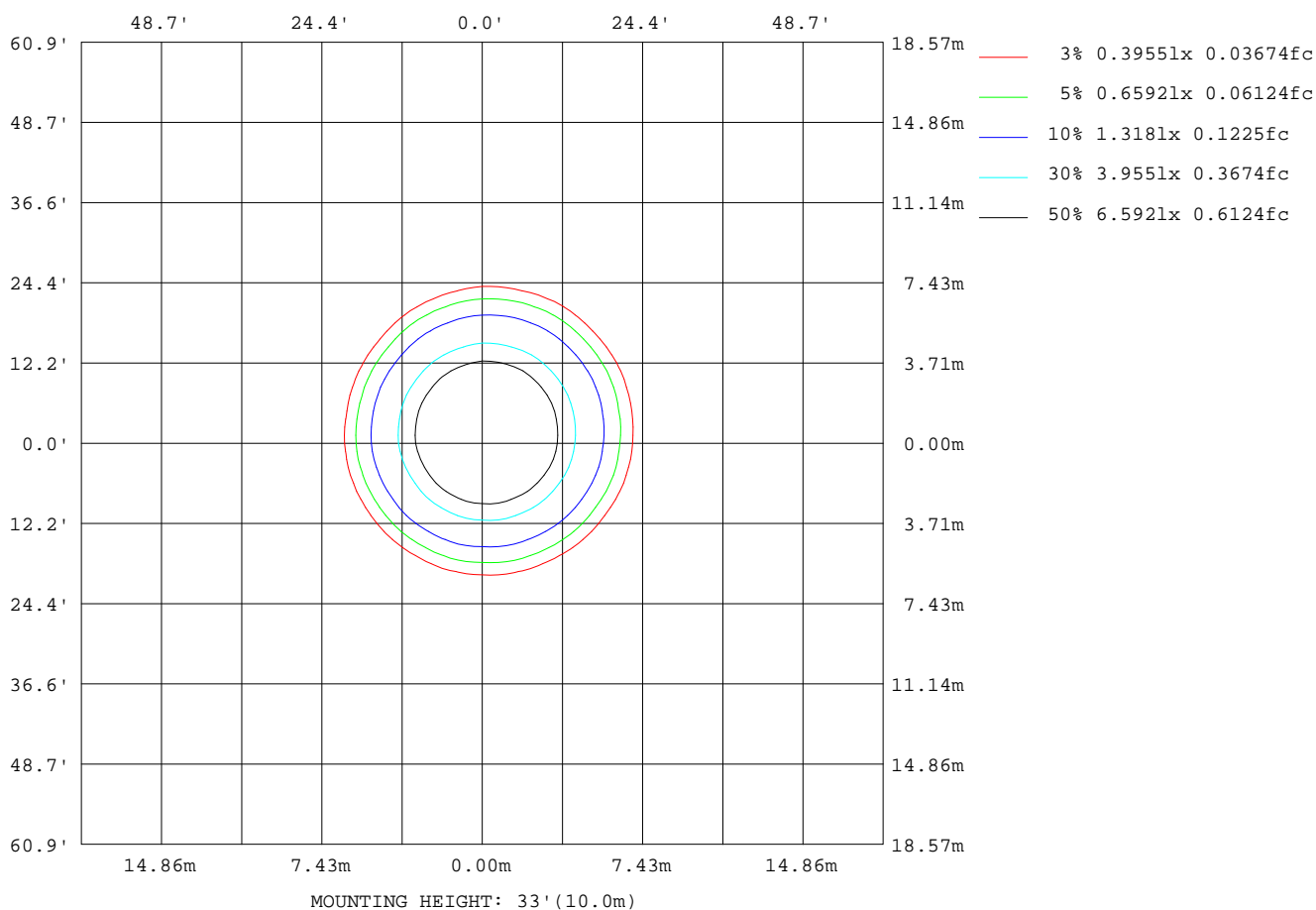
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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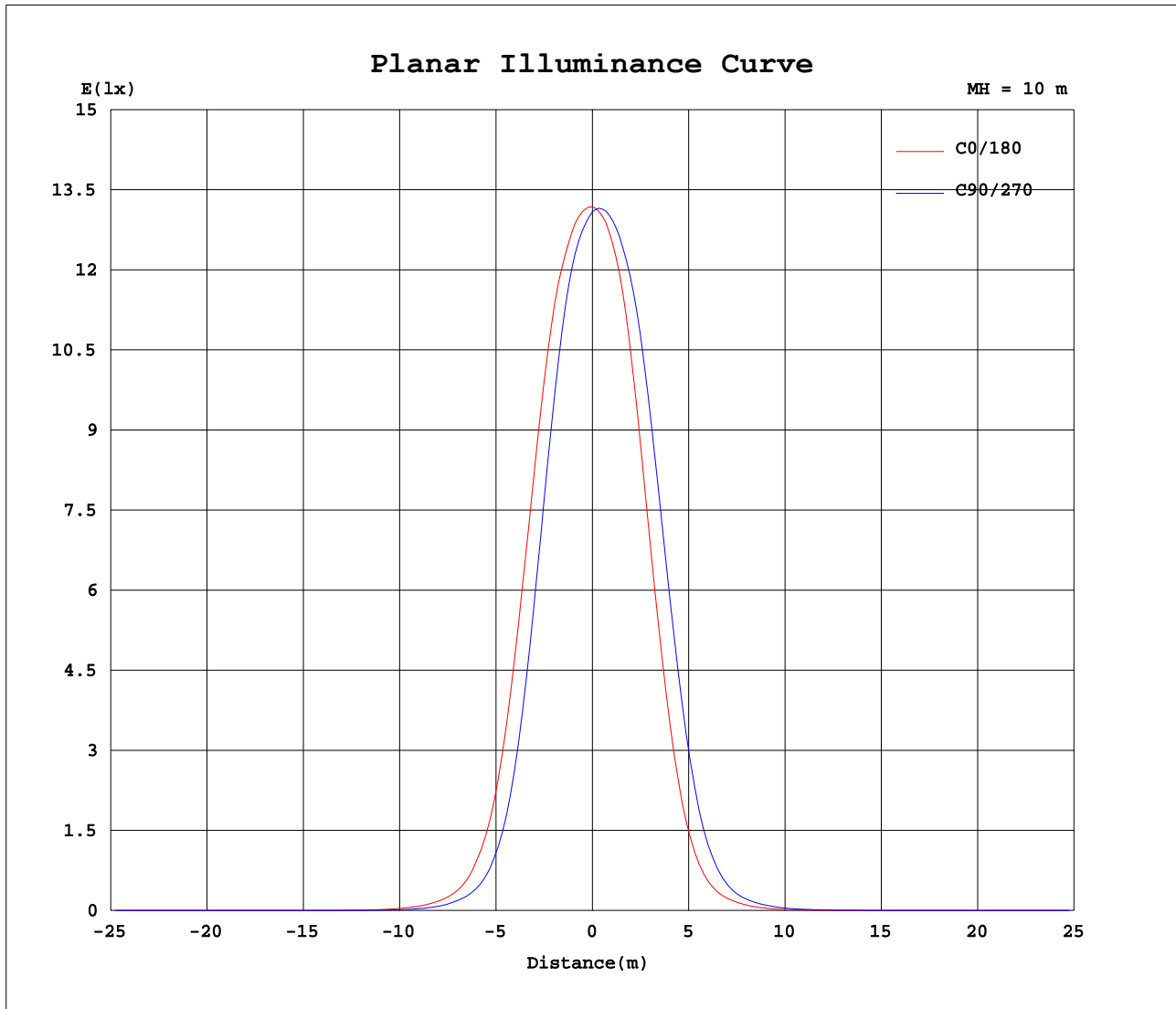
AvgL	cd/m2
L_0~180 (65) av	17
L_0~180 (75) av	11
L_0~180 (85) av	19
L_90~270 (65) av	25
L_90~270 (75) av	9
L_90~270 (85) av	16
L_45 (65) av	19
L_45 (75) av	10
L_45 (85) av	13

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:2020-12-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason
Test Date: 2020-12-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 58%
Test Distance: 8.967m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

```