

LED Downlight SENSE Series S68R1-11W-940-M



Light Output Ratio:	100.0%	
Luminaire Power:	10.01 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.70	fine grid method.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jason  
Test Date: 2021-04-14

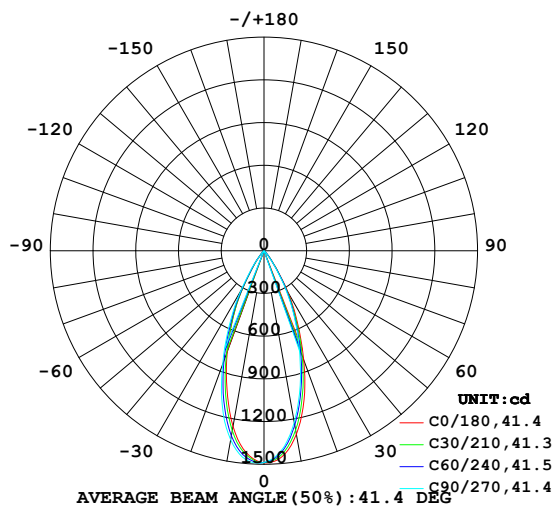
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 8.967m [K=1.0000]  
Remarks:

**LUMINAIRE PHOTOMETRIC TEST REPORT**

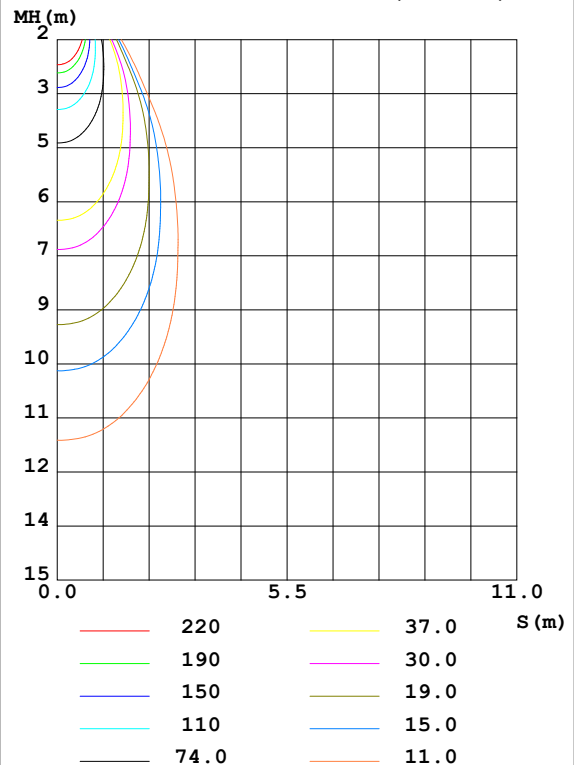
Test:U:28.60V I:0.3500A P:10.01W PF:1.000 Freq:0Hz Lamp Flux:773.312x1 lm		
NAME: S68R1-11W-940-M	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 78mm*H98mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 77.25 lm/W			
MODEL	CITIZEN-4000K	I <sub>max</sub> (cd)	1493	S/MH (C0/180)	0.65
NOMINAL POWER (W)	11	LOR (%)	100.0	S/MH (C90/270)	0.70
RATED VOLTAGE (V)	36	TOTAL FLUX (lm)	773.31	$\eta$ UP, DN (C0-180)	0.0, 48.6
NOMINAL FLUX (lm)	773.312	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 51.4
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	29.3	$\eta$ down (%)	100.0	CIBSE SHR MAX	0.70

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
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Temperature: 25.3DEG  
Operators: Jason  
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# ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	1309	1265	1224	1220	1254	1298	1348	1352	0- 10	132.4	132.4	17.1,17.1
20	816.2	773.1	725.5	725.4	753.4	789.0	850.7	858.3	10- 20	288.7	421.1	54.5,54.5
30	340.7	316.6	293.1	296.6	286.8	286.2	329.3	341.2	20- 30	243.3	664.4	85.9,85.9
40	43.28	64.32	39.20	57.65	36.71	49.40	38.29	65.13	30- 40	91.80	756.2	97.8,97.8
50	2.416	9.702	1.978	8.971	1.767	6.736	2.049	7.652	40- 50	15.34	771.5	99.8,99.8
60	0.3509	0.5065	0.4503	0.6422	0.3603	0.4760	0.3183	0.4551	50- 60	1.418	773.0	100,100
70	0.1258	0.1460	0.1050	0.1722	0.0834	0.1570	0.0418	0.1360	60- 70	0.2528	773.2	100,100
80	0.0575	0.0261	0.0627	0.0314	0.0314	0.0523	0.0261	0.0523	70- 80	0.0635	773.3	100,100
90	0.0314	0.0261	0.0314	0.0314	0.0314	0.0314	0.0261	0.0314	80- 90	0.0394	773.3	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): 767.46 lm

%lum = 99.2%

%lamp = 99.2%

Conical surface Flux(120deg): 772.96 lm

%lum = 100.0%

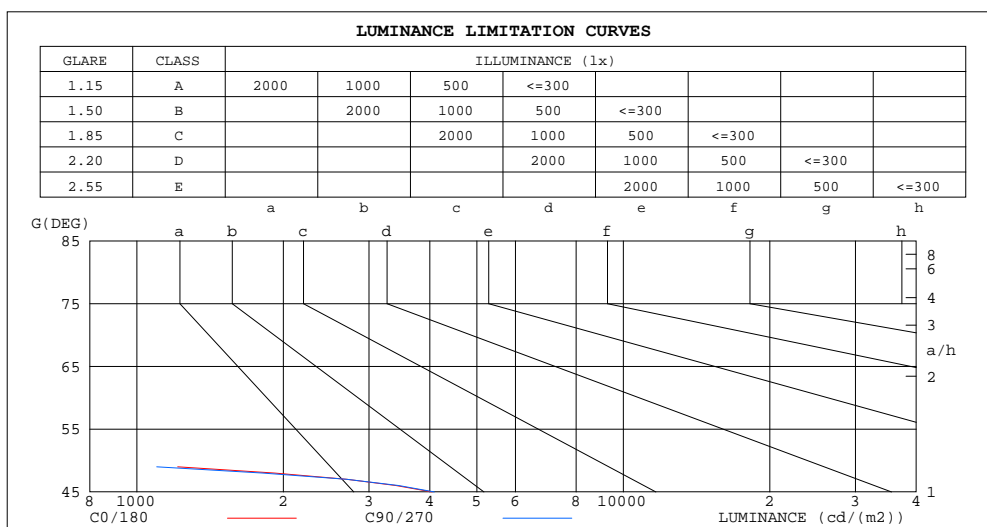
%lamp = 100.0%

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Temperature:25.3DEG  
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Test Date:2021-04-14

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Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:28.60V I:0.3500A P:10.01W PF:1.000 Freq:0Hz Lamp Flux:773.312x1 lm		
NAME: S68R1-11W-940-M	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 78mm*H98mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	101	101
80	69	76
75	59	64
70	77	64
65	127	148
60	147	189
55	267	321
50	787	644
45	4048	4088

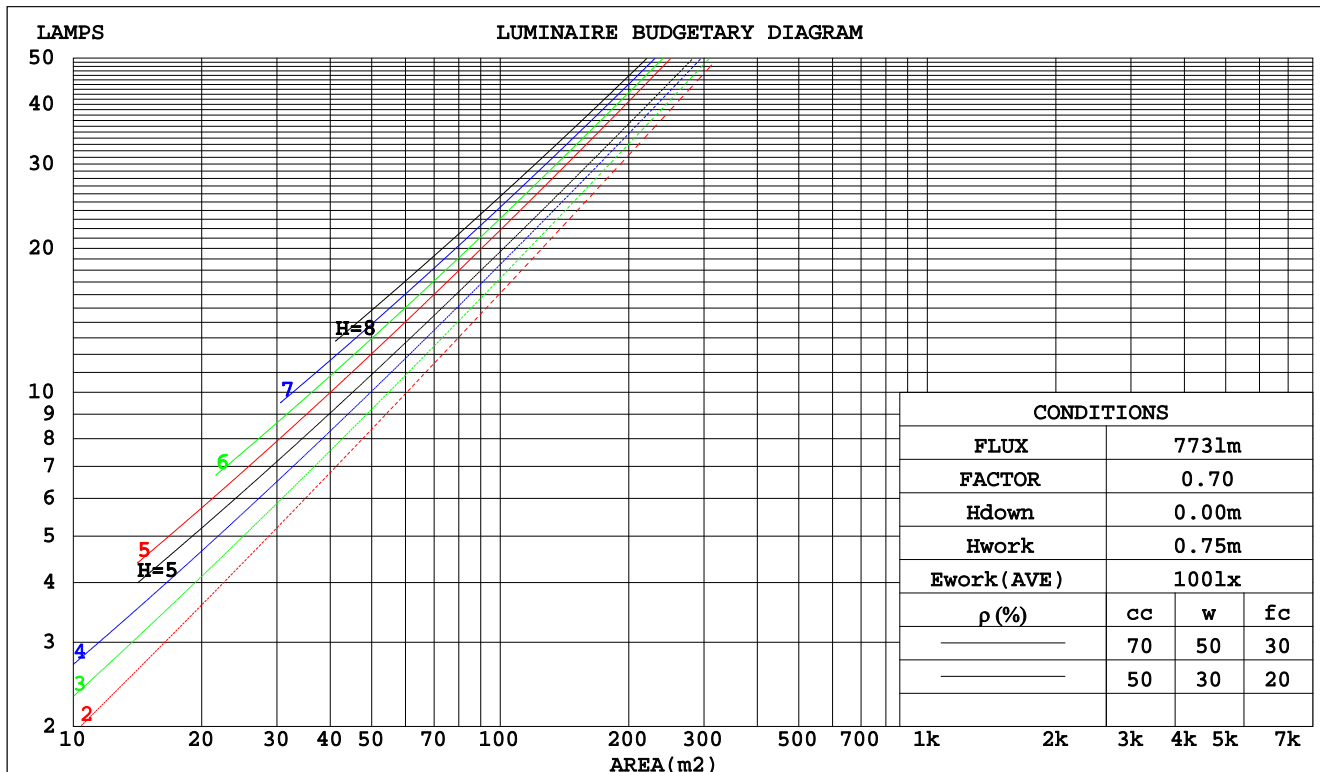
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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MFR.: NEKO LIGHTING AG		

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	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	1.04	1.03	1.02	1.01	.00	.98	.98	.97	.95
2.0	1.05	1.02	.99	1.03	1.00	.98	1.00	.98	.95	.97	.95	.93	.95	.93	.91	.90
3.0	.99	.95	.91	.98	.94	.91	.95	.92	.89	.93	.90	.88	.91	.89	.87	.85
4.0	.94	.89	.85	.93	.88	.85	.91	.87	.84	.89	.86	.83	.87	.84	.82	.81
5.0	.89	.84	.80	.88	.83	.80	.86	.82	.79	.85	.81	.79	.83	.80	.78	.77
6.0	.85	.79	.76	.84	.79	.76	.82	.78	.75	.81	.77	.75	.80	.77	.74	.73
7.0	.81	.75	.72	.80	.75	.72	.79	.74	.71	.78	.74	.71	.77	.73	.70	.69
8.0	.77	.72	.68	.76	.71	.68	.75	.71	.68	.74	.70	.67	.73	.70	.67	.66
9.0	.73	.68	.65	.73	.68	.65	.72	.68	.65	.71	.67	.64	.70	.67	.64	.63
10.0	.70	.65	.62	.70	.65	.62	.69	.65	.62	.68	.64	.61	.68	.64	.61	.60



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Remarks:

## WEC AND CCEC

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NAME: S68R1-11W-940-M	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: $\varnothing$ 78mm*H98mm	
MFR.: NEKO LIGHTING AG		

$\rho_{cc}$	80%			70%			50%			30%			10%			0	
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
$\rho_{fc}$	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.159	.090	.029	.152	.087	.028	.140	.080	.026	.128	.074	.024	.118	.068	.022		
2.0	.150	.082	.025	.145	.080	.025	.134	.075	.023	.125	.070	.022	.116	.066	.021		
3.0	.142	.076	.023	.138	.074	.022	.129	.070	.021	.121	.066	.020	.113	.063	.019		
4.0	.135	.070	.021	.131	.069	.020	.124	.066	.020	.117	.063	.019	.110	.060	.018		
5.0	.129	.066	.019	.125	.064	.019	.119	.062	.018	.113	.059	.018	.107	.057	.017		
6.0	.123	.062	.018	.120	.061	.017	.114	.059	.017	.109	.057	.017	.104	.055	.016		
7.0	.117	.058	.016	.115	.057	.016	.110	.056	.016	.105	.054	.016	.101	.052	.015		
8.0	.113	.055	.015	.110	.054	.015	.106	.053	.015	.102	.051	.015	.098	.050	.015		
9.0	.108	.052	.015	.106	.052	.014	.102	.050	.014	.098	.049	.014	.095	.048	.014		
10.0	.104	.050	.014	.102	.049	.014	.098	.048	.014	.095	.047	.013	.092	.046	.013		

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.170	.157	.146	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.100	.090	.079	.069	.052	.046	.041	.017	.015	.013	
3.0	.140	.113	.092	.120	.098	.080	.082	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.129	.098	.075	.110	.085	.065	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.119	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007	
6.0	.112	.077	.052	.096	.067	.045	.066	.047	.032	.038	.027	.019	.012	.009	.006	
7.0	.105	.069	.044	.090	.060	.039	.062	.042	.027	.036	.025	.016	.012	.008	.005	
8.0	.099	.063	.038	.085	.054	.033	.059	.038	.024	.034	.023	.014	.011	.007	.005	
9.0	.094	.057	.033	.081	.050	.029	.056	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.089	.053	.029	.077	.046	.025	.053	.032	.018	.031	.019	.011	.010	.006	.004	

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 $\gamma$  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:28.60V I:0.3500A P:10.01W PF:1.000 Freq:0Hz Lamp Flux:773.312x1 lm										
NAME: S68R1-11W-940-M					TYPE:Downlight			SERIAL No.:		
SPEC.:4000K					DIM.: $\phi$ 78mm*H98mm					
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	15.2	16.0	15.4	16.1	16.3	14.6	15.4	14.8	15.6	15.7
3H	15.0	15.8	15.2	15.9	16.1	14.4	15.2	14.7	15.4	15.6
4H	14.9	15.6	15.2	15.8	16.1	14.3	15.1	14.6	15.3	15.5
6H	14.8	15.5	15.1	15.7	16.0	14.2	14.9	14.5	15.2	15.4
8H	14.8	15.4	15.1	15.7	15.9	14.2	14.8	14.5	15.1	15.4
12H	14.7	15.4	15.0	15.6	15.9	14.2	14.8	14.5	15.0	15.3
4H 2H	14.9	15.6	15.2	15.8	16.1	14.3	15.1	14.6	15.3	15.5
3H	14.7	15.4	15.0	15.6	15.9	14.2	14.8	14.5	15.0	15.3
4H	14.6	15.2	15.0	15.5	15.8	14.1	14.6	14.4	14.9	15.2
6H	14.5	15.0	14.9	15.4	15.7	14.0	14.5	14.3	14.8	15.1
8H	14.5	15.0	14.9	15.3	15.7	13.9	14.4	14.3	14.7	15.1
12H	14.4	14.9	14.8	15.2	15.6	13.9	14.3	14.3	14.7	15.0
8H 4H	14.5	14.9	14.9	15.3	15.7	13.9	14.4	14.3	14.7	15.1
6H	14.4	14.8	14.8	15.2	15.6	13.8	14.2	14.2	14.6	15.0
8H	14.3	14.7	14.8	15.1	15.5	13.7	14.1	14.2	14.5	14.9
12H	14.3	14.6	14.7	15.0	15.5	13.7	14.0	14.2	14.4	14.9
12H 4H	14.4	14.9	14.8	15.2	15.6	13.9	14.3	14.3	14.7	15.0
6H	14.3	14.7	14.8	15.1	15.5	13.7	14.1	14.2	14.5	14.9
8H	14.3	14.6	14.7	15.0	15.5	13.7	14.0	14.2	14.4	14.9
Variations with the observer position at spacings:										
S = 1.0H	+ 4.0 / -22.4					+ 2.9 / -21.1				
1.5H	+ 6.6 / -19.2					+ 5.4 / -18.5				
2.0H	+ 7.0 / -13.8					+ 6.4 / -13.8				

CIE Pub.117, 773.3 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -0.9$ )

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Remarks:

### UTILIZATION FACTORS TABLE

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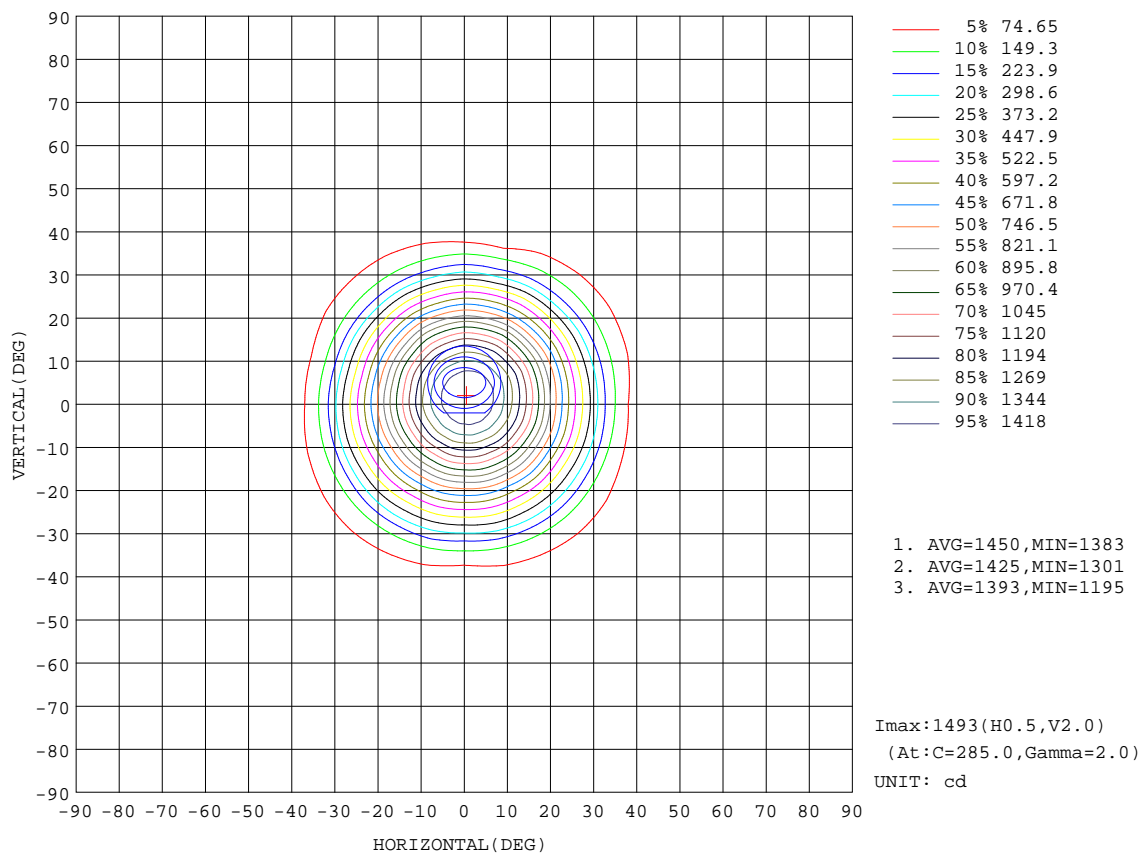
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	89	97	92	88	95	91	88	85
1.00	101	96	93	100	96	93	99	95	92	88
1.25	105	100	97	104	100	97	102	98	96	92
1.50	107	103	100	106	102	100	104	101	98	94
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	106	104	107	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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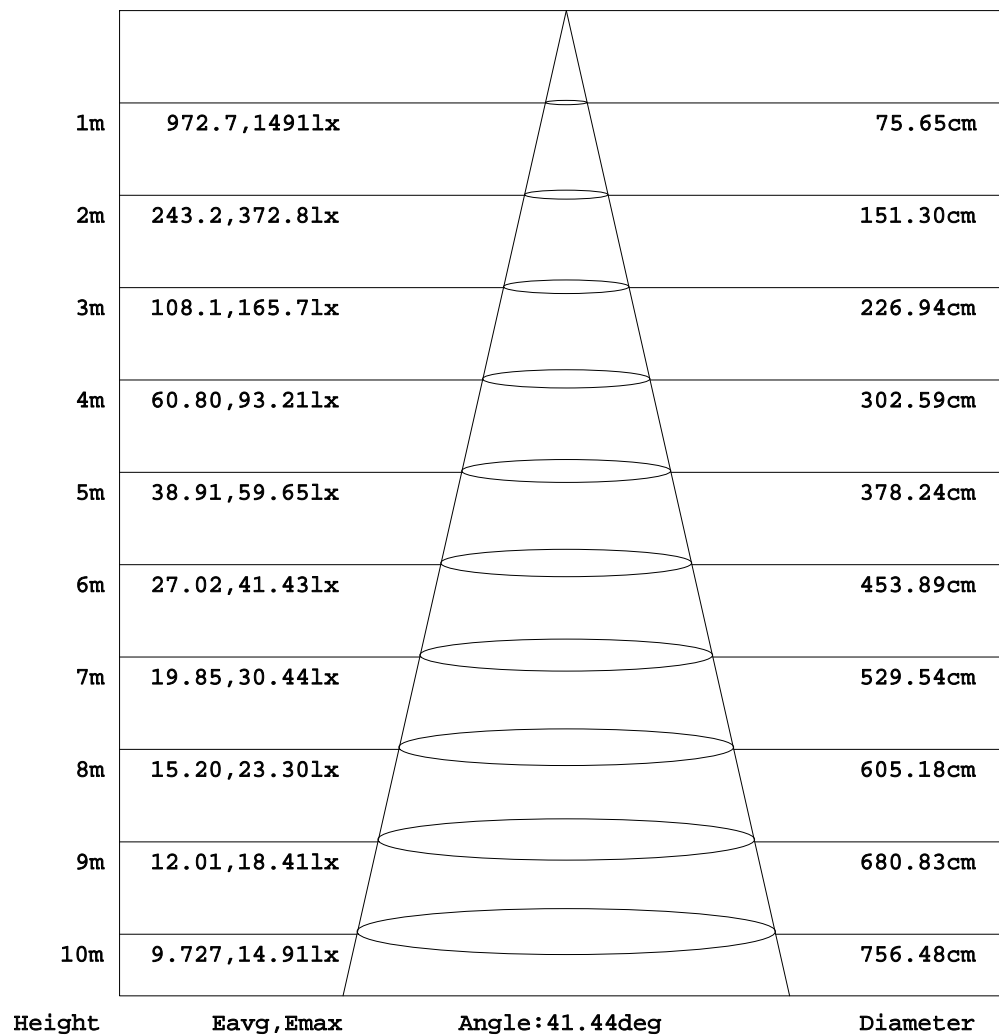
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**AAI Figure**

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Flux out:450.3 lm



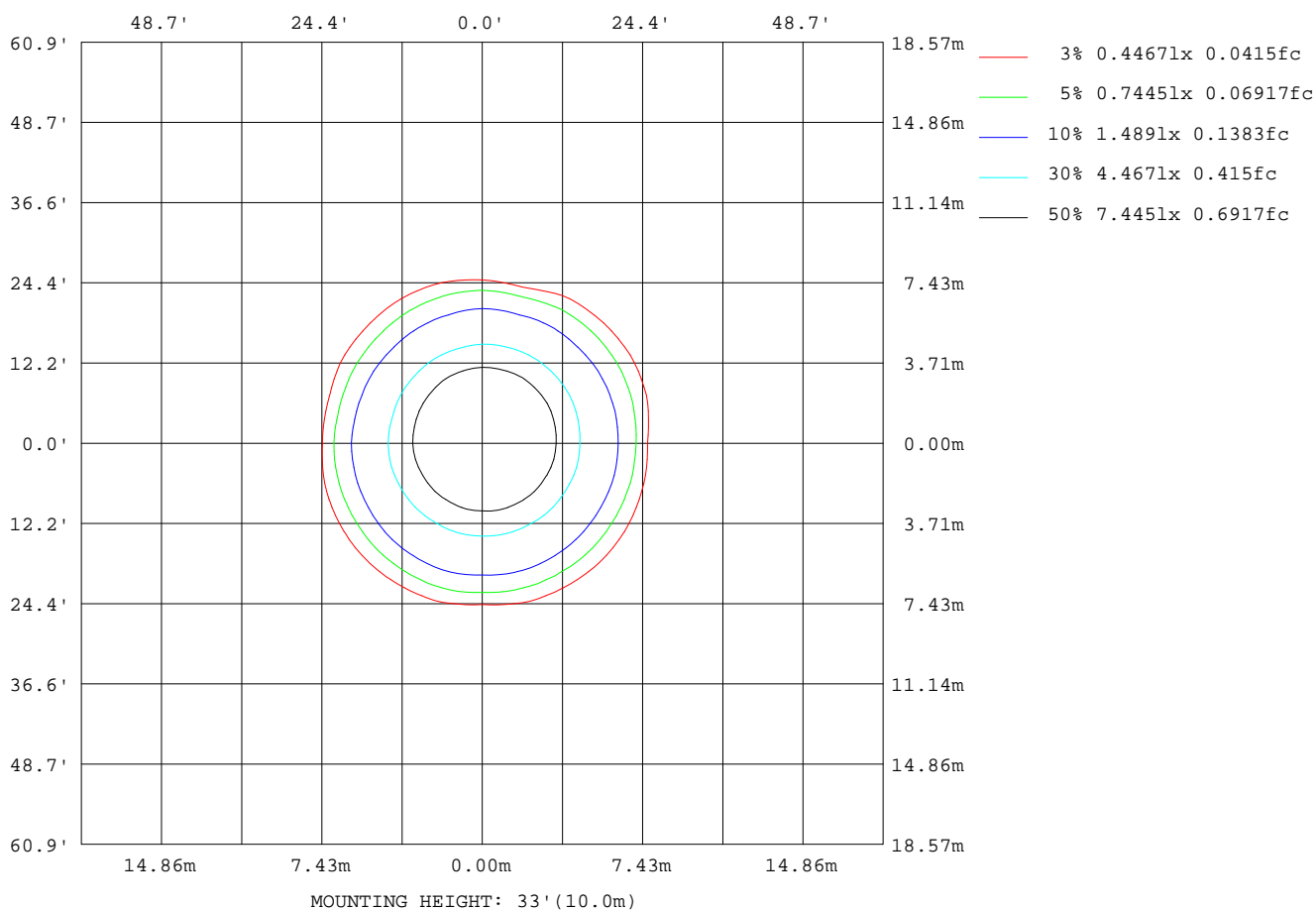
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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**ISOLUX DIAGRAM**

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### LED Avg.L Report

Test:U:28.60V I:0.3500A P:10.01W PF:1.000 Freq:0Hz Lamp Flux:773.312x1 lm		
NAME: S68R1-11W-940-M	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 78mm*H98mm	
MFR.: NEKO LIGHTING AG		

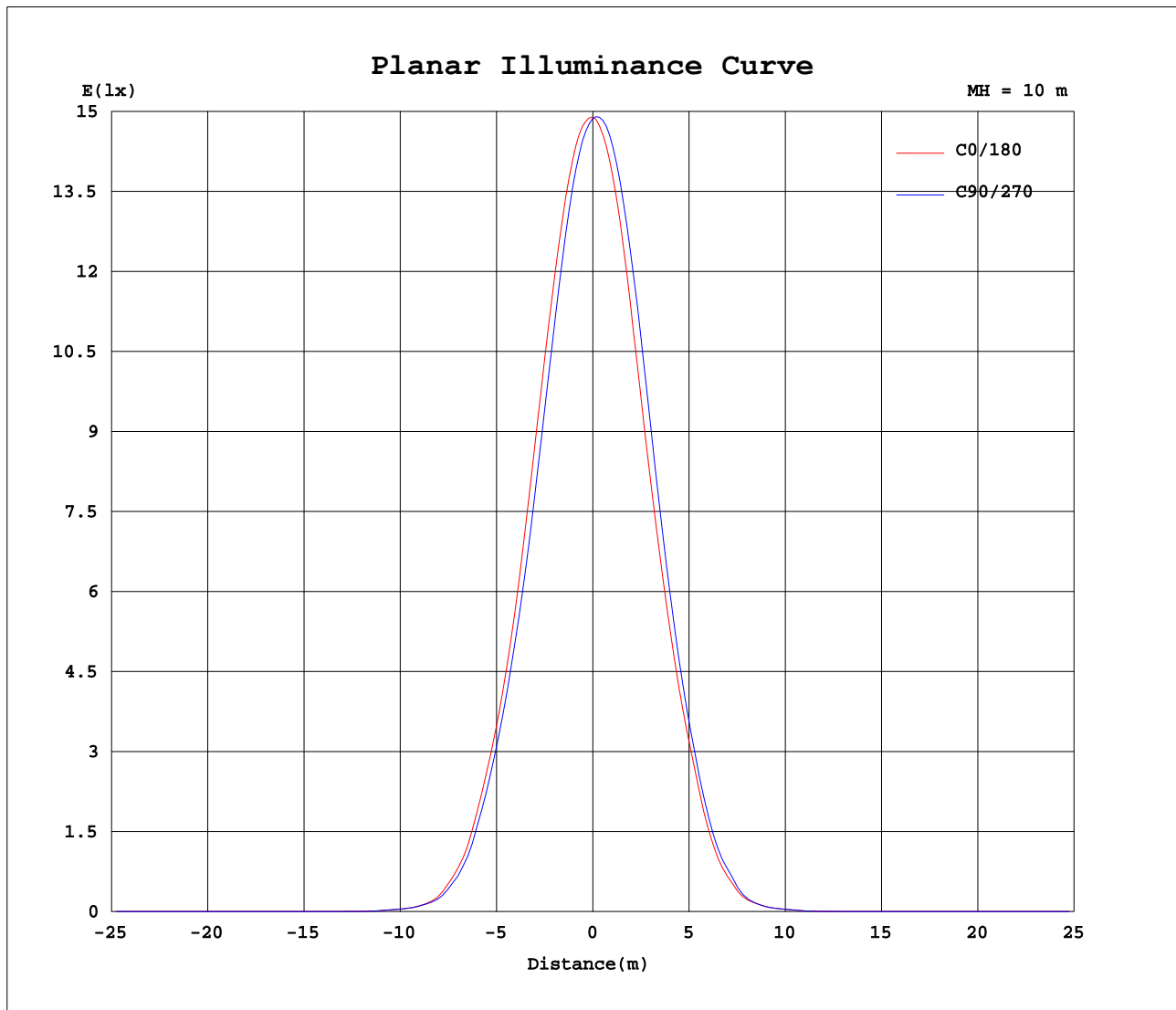
AvgL	cd/m2
L_0~180 (65) av	129
L_0~180 (75) av	42
L_0~180 (85) av	88
L_90~270 (65) av	124
L_90~270 (75) av	42
L_90~270 (85) av	82
L_45 (65) av	125
L_45 (75) av	39
L_45 (85) av	82

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2021-04-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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: 2021-04-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

```