

LED Downlight Sense Series S45S1-4W-927-18



Light Output Ratio:	100.0%	
Luminaire Power:	4.2 W	
SHR Nominal:	0.00	Calculated using the TM5
SHR Maximum:	1.00	fine grid method.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jason  
Test Date: 2021-03-16

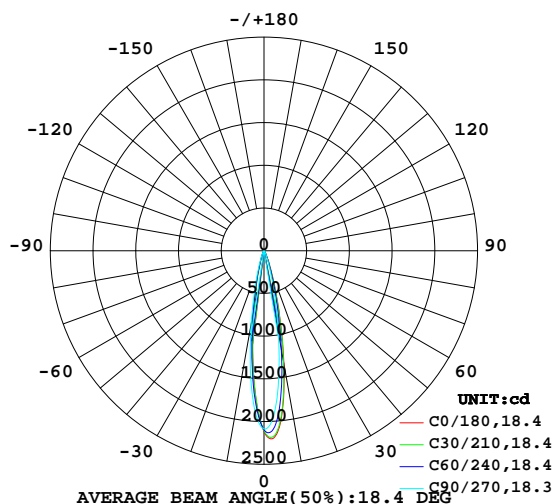
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 8.967m [K=1.0000]  
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

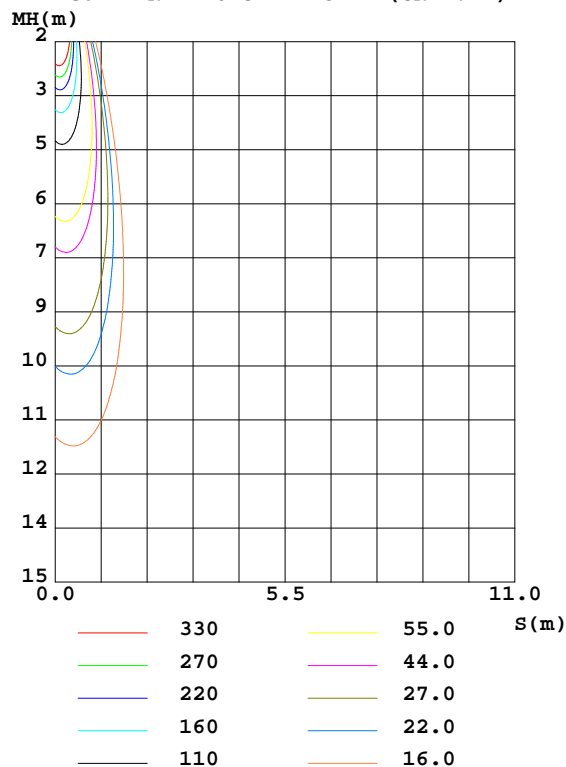
Test:U:12.00V I:0.3500A P:4.200W PF:1.000 Freq:0Hz Lamp Flux:304.504x1 lm		
NAME: S45S1-4W-927-18	TYPE:Downlight	SERIAL No.:
SPEC.:2700K	DIM.: L55mm*W55mm*H60mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 72.50 lm/W			
MODEL	CREE-2700K	I <sub>max</sub> (cd)	2204	S/MH(C0/180)	0.25
NOMINAL POWER(W)	6	LOR(%)	100.0	S/MH(C90/270)	0.30
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	304.50	η UP,DN(C0-180)	0.0,53.8
NOMINAL FLUX(lm)	304.504	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,46.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
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γ Range: 0 - 90DEG  
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Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1339	1286	965.9	740.3	676.2	675.3	867.0	1103	0- 10	137.9	137.9	45.3,45.3
20	237.5	212.0	159.6	103.8	105.3	93.17	135.9	162.3	10- 20	115.5	253.3	83.2,83.2
30	47.85	43.25	37.14	28.77	27.20	25.59	31.54	34.13	20- 30	32.86	286.2	94,94
40	14.69	15.16	12.60	11.30	5.432	10.57	7.297	13.06	30- 40	12.40	298.6	98.1,98.1
50	2.325	7.248	2.236	4.171	0.9023	1.695	1.215	3.484	40- 50	4.819	303.4	99.6,99.6
60	0.3620	0.5316	0.2668	0.2605	0.1460	0.1831	0.0835	0.2197	50- 60	0.9007	304.3	99.9,99.9
70	0.1204	0.0679	0.0887	0.0314	0.0259	0.0523	0.0105	0.0679	60- 70	0.1221	304.5	100,100
80	0.0575	0.0105	0.0209	0.0105	0.0105	0.0157	0.0105	0.0157	70- 80	0.0354	304.5	100,100
90	0.0105	0.0105	0.0157	0.0105	0.0157	0.0157	0.0105	0.0105	80- 90	0.0163	304.5	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): 301.76 lm

%lum = 99.1%

%lamp = 99.1%

Conical surface Flux(120deg): 304.33 lm

%lum = 99.9%

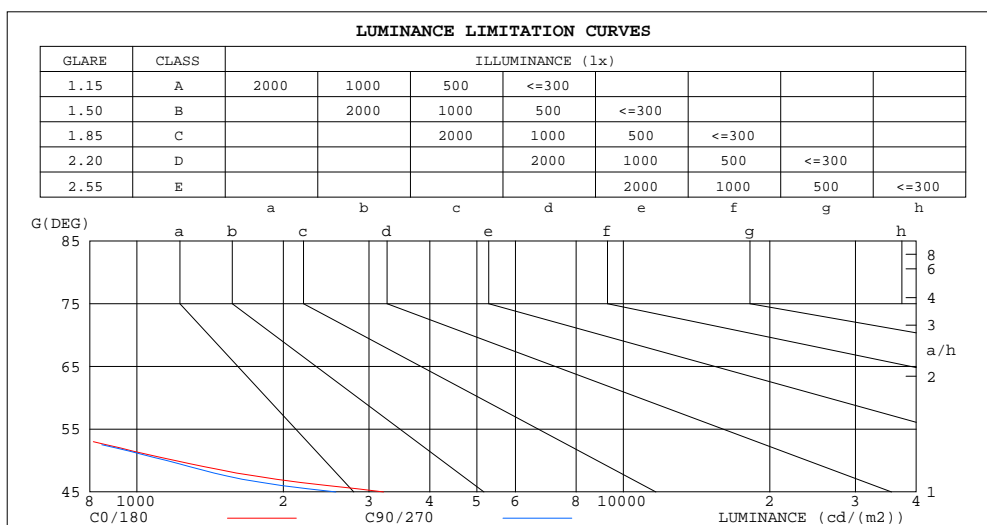
%lamp = 99.9%

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Test Speed: HIGH  
Temperature:25.3DEG  
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$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
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Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### LUMINANCE LIMITATION CURVES

Test:U:12.00V I:0.3500A P:4.200W PF:1.000 Freq:0Hz Lamp Flux:304.504x1 lm		
NAME: S45S1-4W-927-18	TYPE:Downlight	SERIAL No.:
SPEC.:2700K	DIM.: L55mm*W55mm*H60mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	139	59
80	109	40
75	120	54
70	116	86
65	168	106
60	239	176
55	622	571
50	1196	1150
45	3215	2564

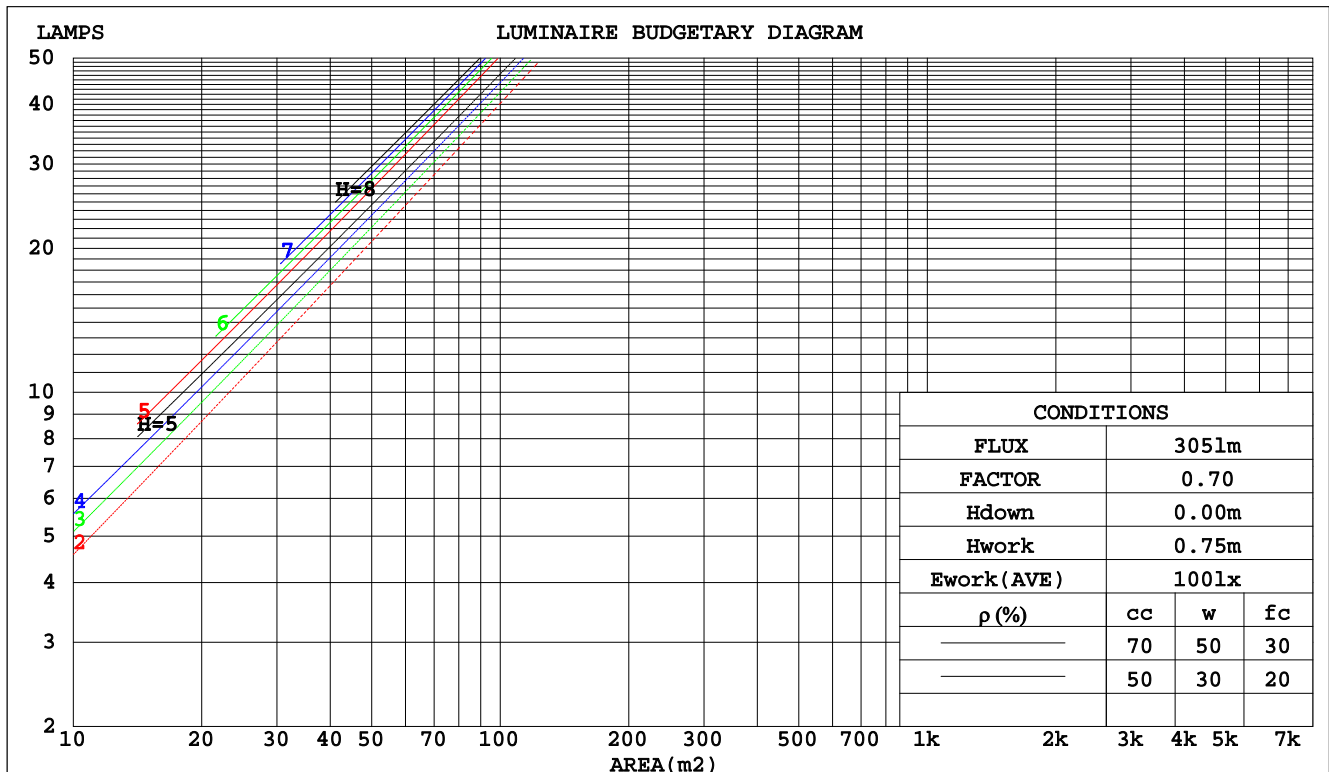
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**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

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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	.00
1.0	1.13	1.11	1.10	1.11	1.10	1.08	1.07	1.06	1.05	1.03	1.03	1.02	1.00	.99	.99	.97
2.0	1.08	1.05	1.03	1.07	1.04	1.02	1.04	1.02	.00	1.01	.99	.98	.98	.97	.96	.94
3.0	1.04	1.01	.98	1.03	.00	.97	1.00	.98	.96	.98	.96	.94	.96	.94	.93	.92
4.0	1.00	.97	.94	.99	.96	.93	.97	.94	.92	.96	.93	.91	.94	.92	.90	.89
5.0	.97	.93	.90	.96	.93	.90	.95	.92	.89	.93	.91	.88	.92	.90	.88	.87
6.0	.94	.90	.87	.93	.90	.87	.92	.89	.87	.91	.88	.86	.90	.87	.86	.85
7.0	.91	.88	.85	.91	.87	.85	.90	.87	.84	.89	.86	.84	.88	.85	.83	.82
8.0	.89	.85	.83	.89	.85	.82	.88	.84	.82	.87	.84	.82	.86	.83	.81	.81
9.0	.87	.83	.80	.86	.83	.80	.86	.82	.80	.85	.82	.80	.84	.82	.80	.79
10.0	.85	.81	.79	.84	.81	.79	.84	.81	.78	.83	.80	.78	.83	.80	.78	.77



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

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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	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.130	.074	.024	.124	.071	.022	.112	.064	.020	.100	.058	.019	.090	.052	.017	
2.0	.120	.066	.020	.115	.063	.020	.105	.058	.018	.096	.054	.017	.087	.049	.015	
3.0	.112	.060	.018	.107	.058	.017	.099	.054	.016	.091	.050	.015	.084	.046	.014	
4.0	.104	.054	.016	.101	.053	.016	.094	.050	.015	.087	.047	.014	.081	.044	.013	
5.0	.098	.050	.014	.095	.049	.014	.089	.046	.014	.083	.044	.013	.078	.042	.013	
6.0	.093	.046	.013	.090	.045	.013	.085	.043	.013	.080	.041	.012	.075	.040	.012	
7.0	.088	.043	.012	.085	.042	.012	.081	.041	.012	.077	.039	.011	.073	.038	.011	
8.0	.083	.041	.011	.081	.040	.011	.077	.039	.011	.074	.037	.011	.070	.036	.010	
9.0	.079	.038	.011	.078	.038	.011	.074	.037	.010	.071	.036	.010	.068	.034	.010	
10.0	.076	.036	.010	.074	.036	.010	.071	.035	.010	.068	.034	.010	.066	.033	.009	

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	.168	.158	.149	.144	.135	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.149	.133	.119	.128	.114	.103	.088	.079	.072	.051	.046	.042	.016	.015	.014	
3.0	.134	.113	.097	.115	.098	.084	.079	.068	.059	.046	.040	.035	.015	.013	.011	
4.0	.121	.098	.080	.104	.084	.069	.072	.059	.049	.041	.034	.029	.013	.011	.010	
5.0	.110	.085	.067	.095	.074	.058	.065	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.101	.075	.057	.087	.065	.049	.060	.046	.035	.035	.027	.021	.011	.009	.007	
7.0	.093	.067	.048	.080	.058	.042	.056	.041	.030	.032	.024	.018	.010	.008	.006	
8.0	.087	.060	.042	.075	.052	.036	.052	.037	.026	.030	.022	.015	.010	.007	.005	
9.0	.081	.054	.036	.070	.047	.032	.048	.033	.023	.028	.020	.013	.009	.006	.004	
10.0	.076	.049	.032	.065	.043	.028	.045	.030	.020	.026	.018	.012	.009	.006	.004	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
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γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
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:12.00V I:0.3500A P:4.200W PF:1.000 Freq:0Hz Lamp Flux:304.504x1 lm										
NAME: S45S1-4W-927-18					TYPE:Downlight			SERIAL No.:		
SPEC.:2700K					DIM.: L55mm*W55mm*H60mm					
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	12.3	12.9	12.5	13.1	13.2	11.8	12.4	12.0	12.6	12.7
3H	12.2	12.8	12.4	12.9	13.1	11.7	12.2	11.9	12.4	12.6
4H	12.1	12.7	12.4	12.9	13.1	11.6	12.1	11.8	12.3	12.5
6H	12.0	12.5	12.3	12.8	13.0	11.5	12.0	11.8	12.3	12.5
8H	12.0	12.5	12.3	12.7	13.0	11.5	12.0	11.8	12.2	12.5
12H	11.9	12.4	12.3	12.7	12.9	11.4	11.9	11.7	12.2	12.4
4H 2H	12.1	12.7	12.4	12.9	13.1	11.6	12.2	11.9	12.4	12.6
3H	12.0	12.4	12.3	12.7	13.0	11.4	11.9	11.8	12.2	12.4
4H	11.9	12.3	12.2	12.6	12.9	11.4	11.8	11.7	12.1	12.4
6H	11.8	12.2	12.1	12.5	12.8	11.3	11.6	11.6	12.0	12.3
8H	11.7	12.1	12.1	12.4	12.8	11.2	11.6	11.6	11.9	12.3
12H	11.7	12.0	12.1	12.4	12.7	11.1	11.5	11.5	11.8	12.2
8H 4H	11.7	12.1	12.1	12.4	12.8	11.2	11.6	11.6	11.9	12.3
6H	11.6	11.9	12.0	12.3	12.7	11.1	11.4	11.5	11.8	12.2
8H	11.5	11.8	12.0	12.2	12.7	11.0	11.3	11.5	11.7	12.1
12H	11.5	11.7	11.9	12.1	12.6	11.0	11.2	11.4	11.6	12.1
12H 4H	11.7	12.0	12.1	12.4	12.7	11.1	11.5	11.5	11.8	12.2
6H	11.5	11.8	12.0	12.2	12.7	11.0	11.3	11.5	11.7	12.1
8H	11.5	11.7	11.9	12.1	12.6	11.0	11.2	11.4	11.6	12.1
Variations with the observer position at spacings:										
S = 1.0H	+ 2.7 / -11.9					+ 2.7 / -14.0				
1.5H	+ 4.1 / - 8.1					+ 3.6 / - 9.1				
2.0H	+ 5.4 / -11.6					+ 5.4 / -13.3				

CIE Pub.117, 304.5 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -4.1$ )

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Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
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### UTILIZATION FACTORS TABLE

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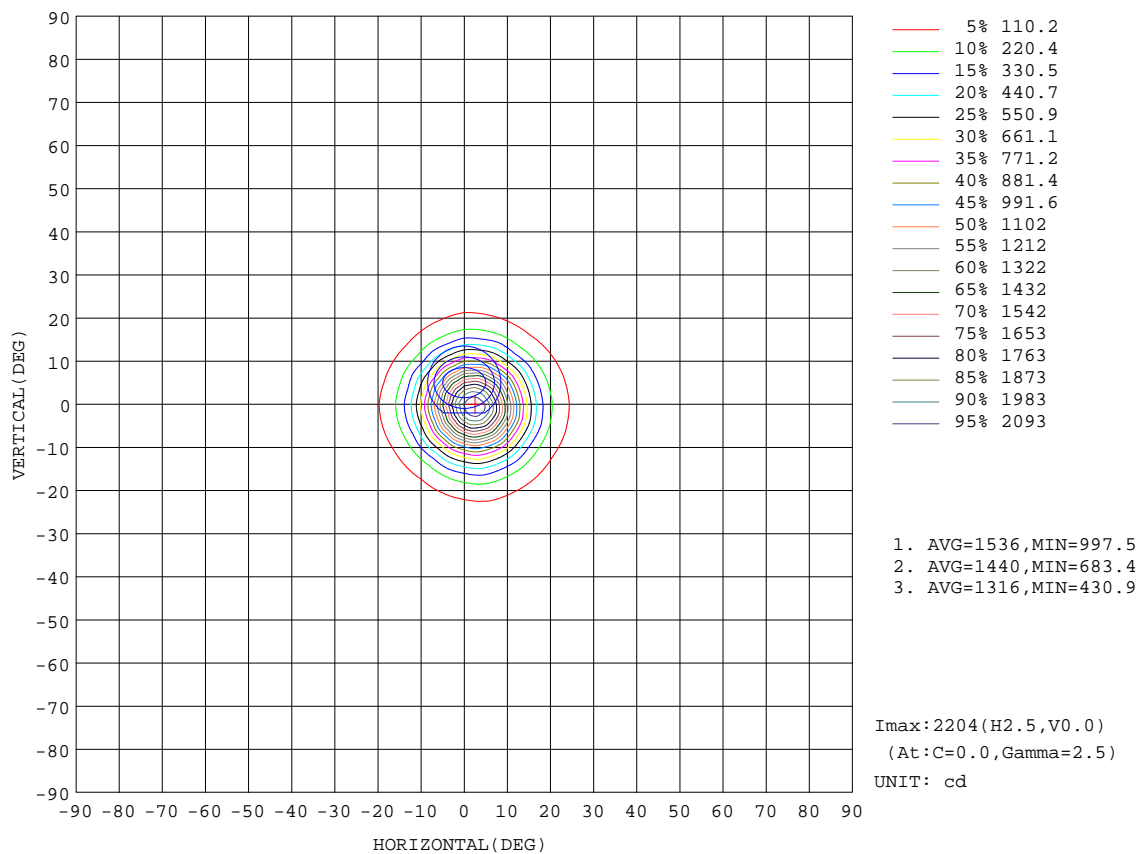
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	85	81	90	84	81	89	84	81	78
0.80	97	92	89	97	92	89	96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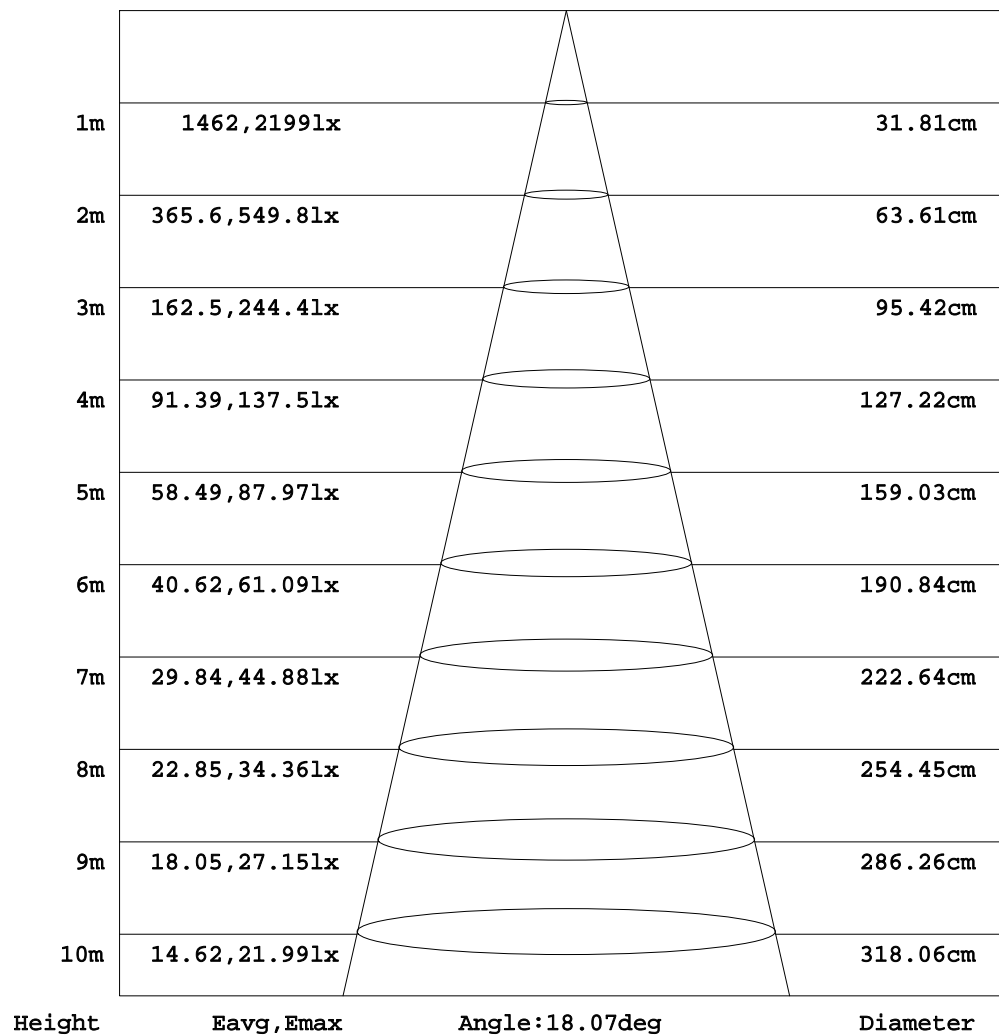
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AAI Figure

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Flux out:128.6 lm



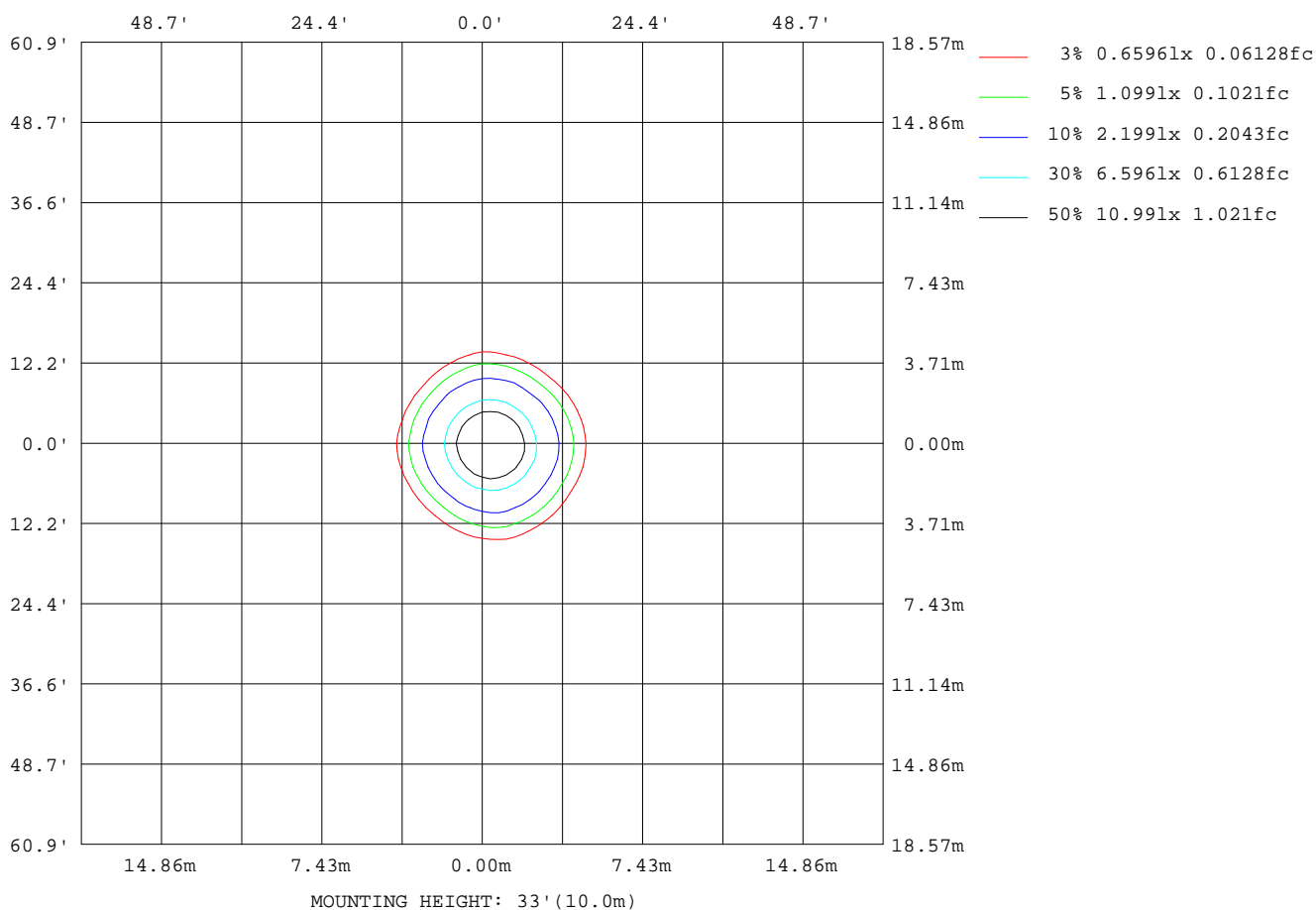
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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### LED Avg.L Report

Test:U:12.00V I:0.3500A P:4.200W PF:1.000 Freq:0Hz Lamp Flux:304.504x1 lm		
NAME: S45S1-4W-927-18	TYPE:Downlight	SERIAL No.:
SPEC.:2700K	DIM.: L55mm*W55mm*H60mm	
MFR.: NEKO LIGHTING AG		

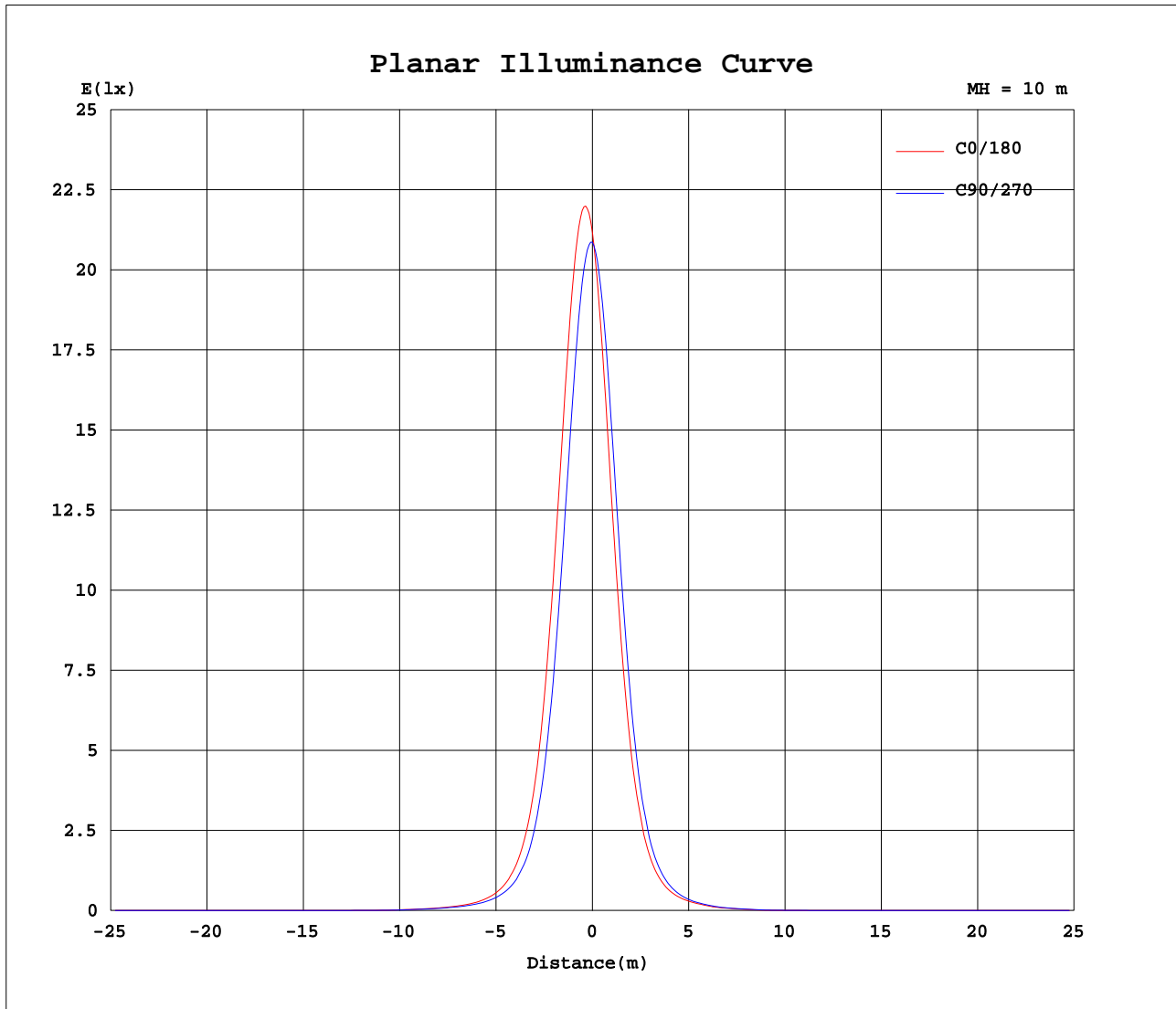
AvgL	cd/m2
L_0~180(65)av	106
L_0~180(75)av	67
L_0~180(85)av	89
L_90~270(65)av	63
L_90~270(75)av	34
L_90~270(85)av	50
L_45(65)av	85
L_45(75)av	30
L_45(85)av	50

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2021-03-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
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: 2021-03-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
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: 0.5DEG
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: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

```