

S45R1-4W-927-18



Light Output Ratio:	100.0%	
Luminaire Power:	5.995 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: Myles  
Test Date: 2019-03-21

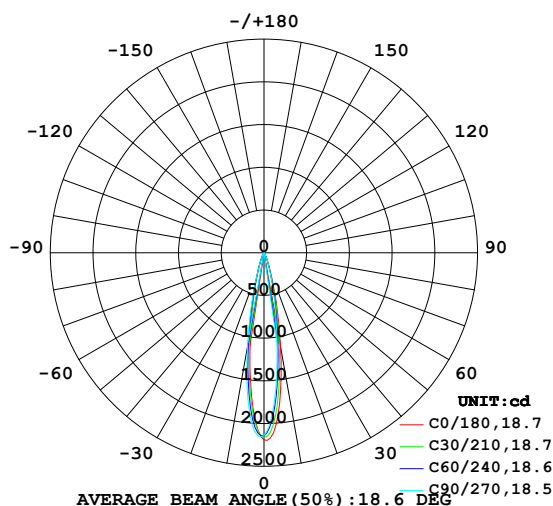
γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 56%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

**LUMINAIRE PHOTOMETRIC TEST REPORT**

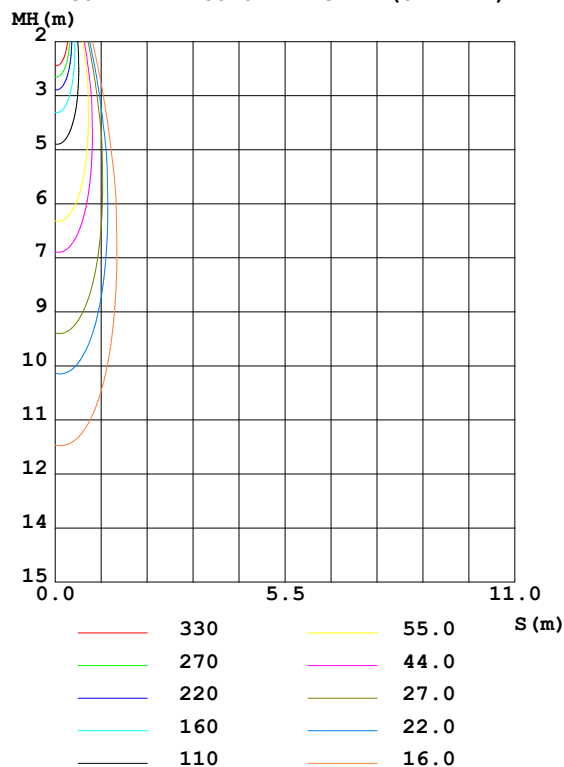
Test:U:220.9V I:0.0326A P:5.995W PF:0.8322 Freq:49.90Hz Lamp Flux:317.542x1 lm		
NAME: S45R1-4W-927-18	TYPE:Downlight	SERIAL No.:
SPEC.:2700K	DIM.: $\phi$ 55mm*H60mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 52.96 lm/W			
MODEL	CREE-2700K	I <sub>max</sub> (cd)	2196	S/MH (C0/180)	0.30
NOMINAL POWER (W)	6	LOR (%)	100.0	S/MH (C90/270)	0.35
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	317.54	$\eta$ UP,DN (C0-180)	0.0,47.9
NOMINAL FLUX (lm)	317.542	CIE CLASS	DIRECT	$\eta$ UP,DN (C180-360)	0.0,52.1
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	220	$\eta$ 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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 Temperature:25.3DEG  
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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	1121	971.1	828.2	845.3	895.5	970.4	1119	1113	0- 10	141.0	141.0	44.4,44.4
20	177.2	170.5	163.3	184.9	164.5	165.8	168.0	164.3	10- 20	123.5	264.5	83.3,83.3
30	37.22	36.74	36.52	43.92	35.27	37.31	35.74	35.05	20- 30	36.81	301.3	94.9,94.9
40	9.054	9.479	9.583	10.20	8.513	8.910	8.176	8.693	30- 40	12.67	314.0	98.9,98.9
50	1.569	1.539	1.266	1.039	1.083	1.345	1.772	1.616	40- 50	2.814	316.8	99.8,99.8
60	0.2582	0.2207	0.2079	0.1638	0.1747	0.2209	0.2337	0.2605	50- 60	0.5570	317.3	99.9,99.9
70	0.1094	0.0721	0.0744	0.0393	0.0458	0.0766	0.0786	0.1072	60- 70	0.1295	317.5	100,100
80	0.0503	0.0283	0.0328	0.0087	0.0044	0.0285	0.0261	0.0460	70- 80	0.0519	317.5	100,100
90	0.0153	0.0087	0.0109	0.0087	0.0044	0.0066	0.0044	0.0109	80- 90	0.0170	317.5	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): 315.96 lm

%lum = 99.5%

%lamp = 99.5%

Conical surface Flux(120deg): 317.34 lm

%lum = 99.9%

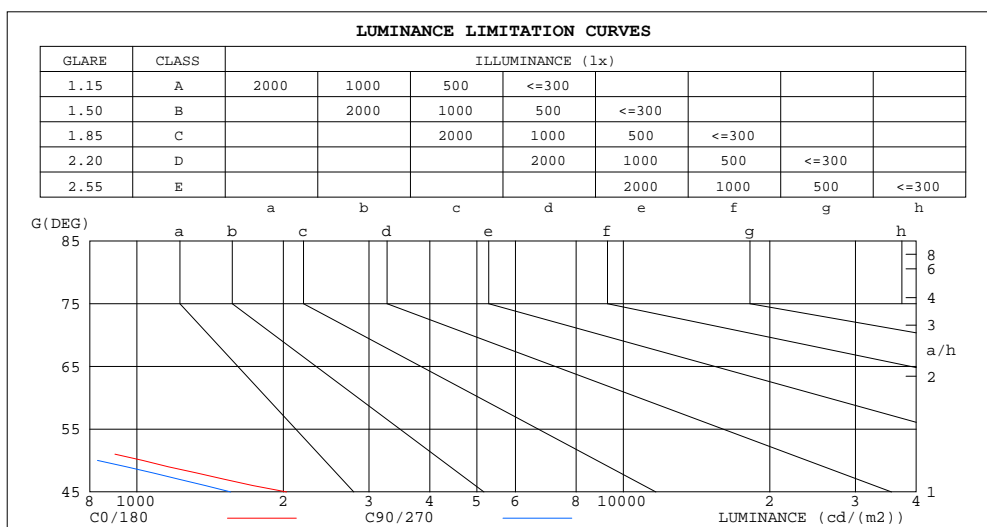
%lamp = 99.9%

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Operators:Myles  
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Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:220.9V I:0.0326A P:5.995W PF:0.8322 Freq:49.90Hz Lamp Flux:317.542x1 lm		
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SPEC.:2700K	DIM.: $\phi$ 55mm*H60mm	
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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	127	95
80	122	80
75	121	78
70	135	92
65	166	103
60	218	175
55	513	320
50	1028	830
45	2030	1559

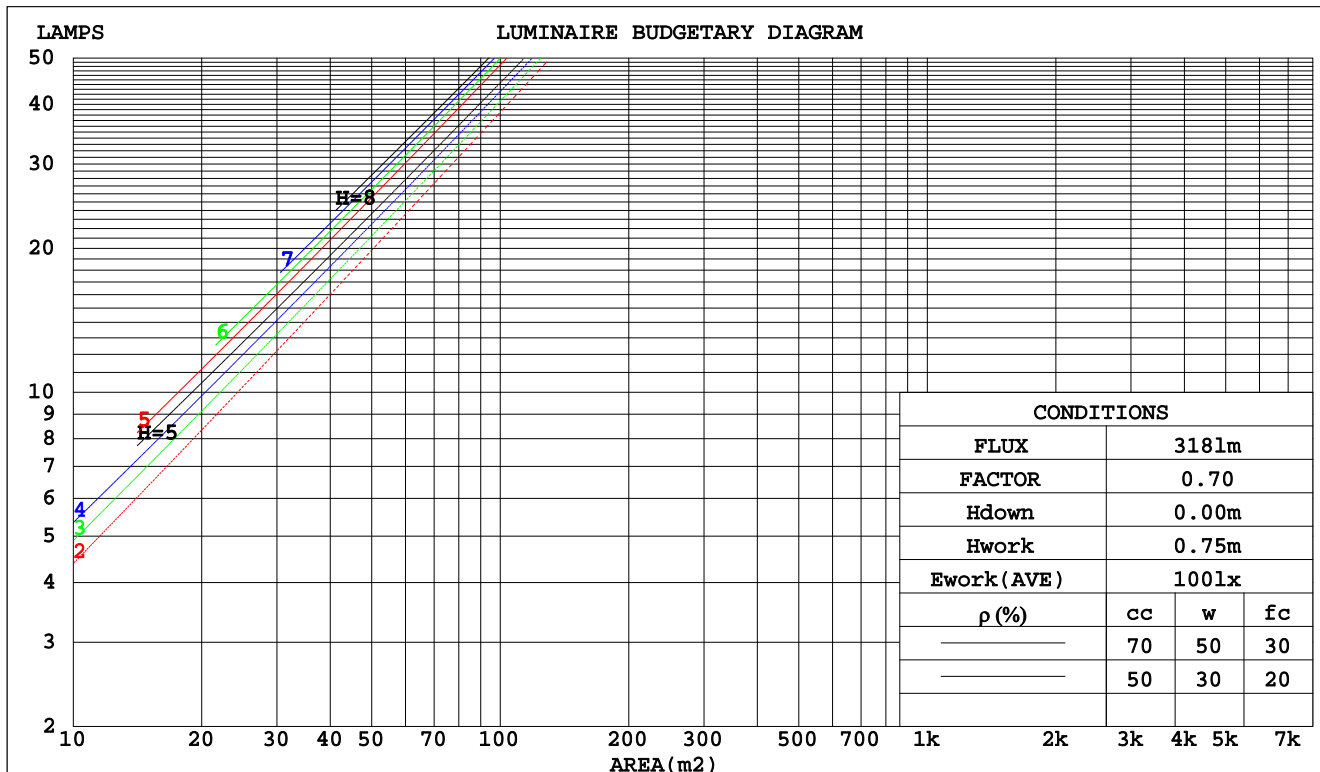
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**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

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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	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	1.13	1.11	1.10	1.11	1.10	1.08	1.07	1.06	1.05	1.04	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	.95	.92	.96	.93	.91	.94	.92	.90	.89
5.0	.97	.93	.90	.96	.93	.90	.95	.92	.89	.93	.91	.89	.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	.84	.83
8.0	.89	.85	.83	.89	.85	.82	.88	.84	.82	.87	.84	.82	.86	.83	.82	.81
9.0	.87	.83	.81	.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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Humidity:56%  
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Remarks:

## WEC AND CCEC

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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	.130	.074	.023	.124	.070	.022	.111	.064	.020	.100	.058	.018	.089	.052	.017		
2.0	.120	.066	.020	.115	.063	.019	.105	.058	.018	.095	.053	.017	.087	.049	.015		
3.0	.111	.059	.018	.107	.057	.017	.099	.053	.016	.091	.050	.015	.084	.046	.014		
4.0	.104	.054	.016	.100	.053	.016	.093	.049	.015	.087	.047	.014	.081	.044	.013		
5.0	.098	.050	.014	.095	.049	.014	.089	.046	.014	.083	.044	.013	.078	.042	.012		
6.0	.092	.046	.013	.090	.045	.013	.084	.043	.013	.080	.041	.012	.075	.040	.012		
7.0	.087	.043	.012	.085	.042	.012	.081	.041	.012	.076	.039	.011	.072	.038	.011		
8.0	.083	.041	.011	.081	.040	.011	.077	.039	.011	.073	.037	.011	.070	.036	.010		
9.0	.079	.038	.011	.077	.038	.011	.074	.037	.010	.071	.035	.010	.068	.034	.010		
10.0	.076	.036	.010	.074	.036	.010	.071	.035	.010	.068	.034	.010	.066	.033	.009		

$\rho_{cc}$	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	.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	.071	.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	.055	.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	

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C Interval: 15.0DEG  
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$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:220.9V I:0.0326A P:5.995W PF:0.8322 Freq:49.90Hz Lamp Flux:317.542x1 lm										
NAME: S45R1-4W-927-18					TYPE:Downlight			SERIAL No.:		
SPEC.:2700K					DIM.: $\phi$ 55mm*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	9.7	10.3	9.9	10.5	10.6	10.0	10.6	10.2	10.8	10.9
3H	9.6	10.1	9.8	10.3	10.5	9.9	10.5	10.1	10.6	10.8
4H	9.5	10.0	9.8	10.2	10.5	9.8	10.4	10.1	10.6	10.8
6H	9.4	9.9	9.7	10.2	10.4	9.7	10.2	10.0	10.5	10.7
8H	9.4	9.9	9.7	10.1	10.4	9.7	10.2	10.0	10.4	10.7
12H	9.3	9.8	9.6	10.1	10.3	9.6	10.1	10.0	10.4	10.6
4H 2H	9.5	10.0	9.8	10.2	10.4	9.8	10.4	10.1	10.6	10.8
3H	9.3	9.8	9.6	10.1	10.3	9.7	10.1	10.0	10.4	10.7
4H	9.2	9.7	9.6	10.0	10.3	9.6	10.0	9.9	10.3	10.6
6H	9.2	9.5	9.5	9.9	10.2	9.5	9.9	9.8	10.2	10.5
8H	9.1	9.5	9.5	9.8	10.2	9.4	9.8	9.8	10.1	10.5
12H	9.0	9.4	9.4	9.7	10.1	9.4	9.7	9.8	10.1	10.4
8H 4H	9.1	9.5	9.5	9.8	10.2	9.4	9.8	9.8	10.1	10.5
6H	9.0	9.3	9.4	9.7	10.1	9.3	9.6	9.7	10.0	10.4
8H	8.9	9.2	9.4	9.6	10.0	9.2	9.5	9.7	9.9	10.4
12H	8.9	9.1	9.3	9.5	10.0	9.2	9.4	9.6	9.8	10.3
12H 4H	9.0	9.4	9.4	9.7	10.1	9.3	9.7	9.8	10.1	10.4
6H	8.9	9.2	9.4	9.6	10.0	9.2	9.5	9.7	9.9	10.4
8H	8.9	9.1	9.3	9.5	10.0	9.2	9.4	9.6	9.8	10.3
Variations with the observer position at spacings:										
S = 1.0H	+ 3.6 / -12.0					+ 3.2 / -14.9				
1.5H	+ 5.8 / - 9.2					+ 5.7 / -11.7				
2.0H	+ 6.3 / - 7.2					+ 5.6 / - 7.3				

CIE Pub.117, 317.5 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -4.0$ )

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

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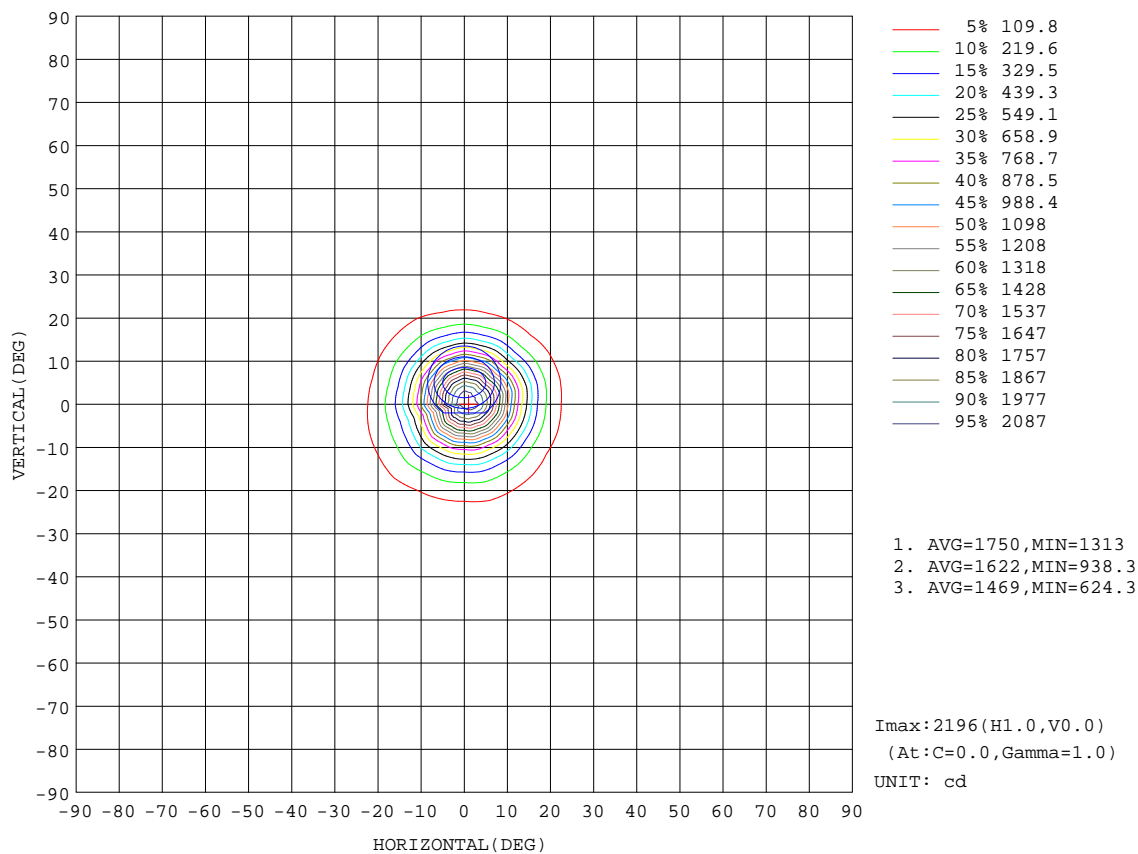
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	82	90	85	82	90	85	82	78
0.80	98	93	89	97	92	89	96	92	89	86
1.00	102	97	93	101	96	93	99	96	93	89
1.25	105	101	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	110	107	111	108	106	108	106	104	98
4.00	115	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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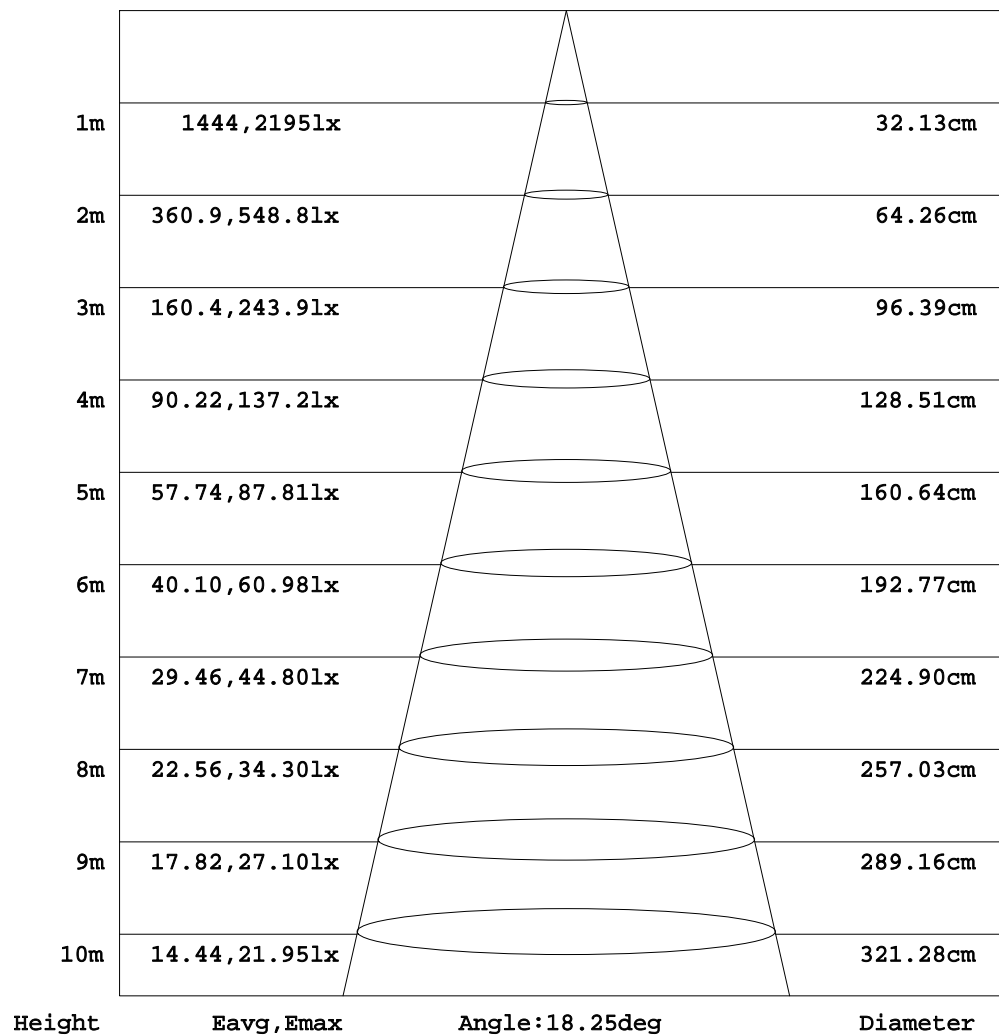
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**AAI Figure**

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MFR.: NEKO LIGHTING AG		

Flux out:141.0 lm



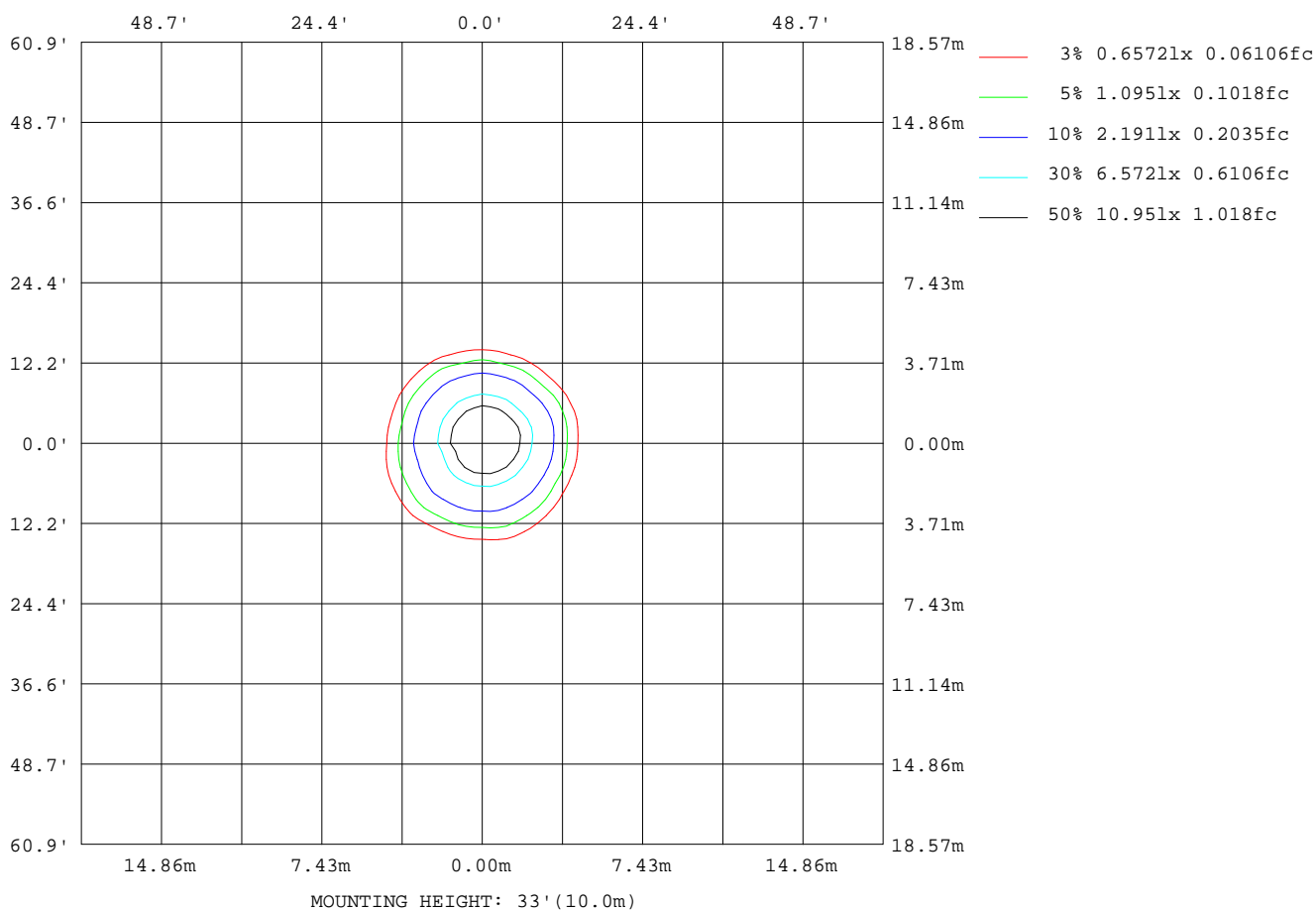
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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**ISOLUX DIAGRAM**

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Remarks:

### LED Avg.L Report

Test:U:220.9V I:0.0326A P:5.995W PF:0.8322 Freq:49.90Hz Lamp Flux:317.542x1 lm		
NAME: S45R1-4W-927-18	TYPE:Downlight	SERIAL No.:
SPEC.:2700K	DIM.: $\phi$ 55mm*H60mm	
MFR.: NEKO LIGHTING AG		

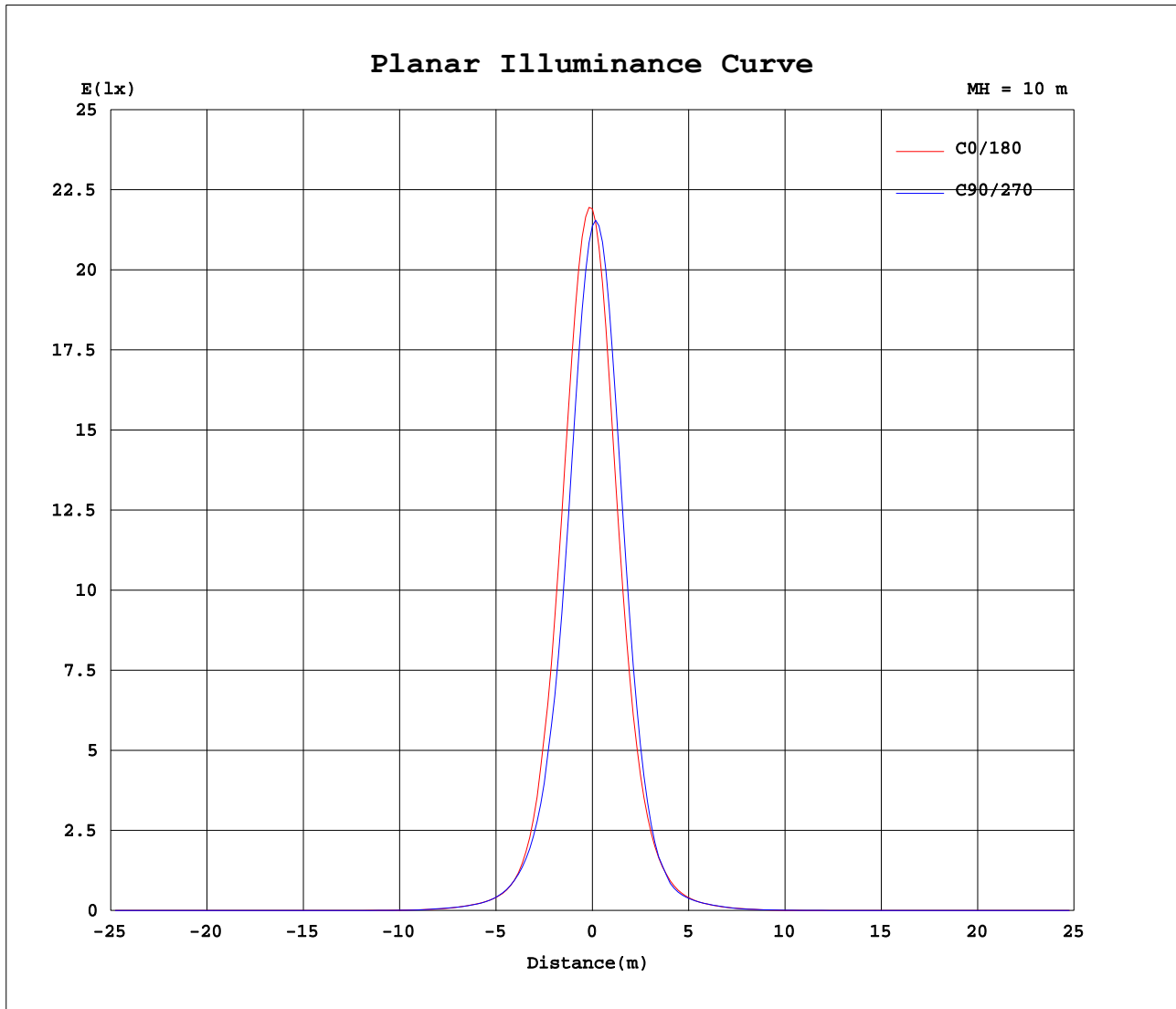
AvgL	cd/m2
L_0~180 (65) av	120
L_0~180 (75) av	82
L_0~180 (85) av	74
L_90~270 (65) av	121
L_90~270 (75) av	76
L_90~270 (85) av	58
L_45 (65) av	118
L_45 (75) av	78
L_45 (85) av	71

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-03-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Myles  
Test Date: 2019-03-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 56%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

```