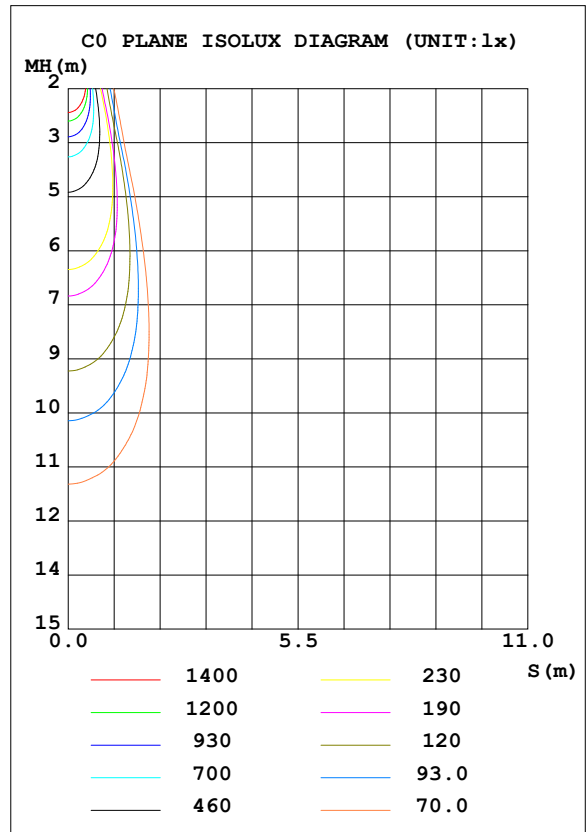
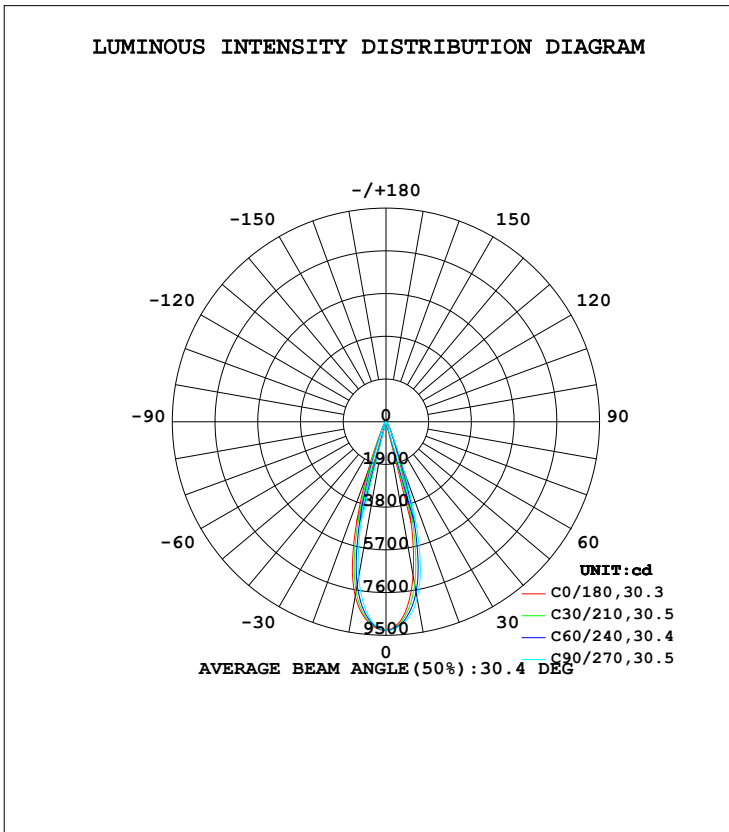


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 137.35 lm/W			
MODEL	CITIZEN-4000K	I <sub>max</sub> (cd)	9277	S/MH (C0/180)	0.50
NOMINAL POWER (W)	20	LOR (%)	100.0	S/MH (C90/270)	0.44
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	2621.7	η UP, DN (C0-180)	0.0, 52.8
NOMINAL FLUX (lm)	2621.69	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 47.2
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



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jasoan  
 Test Date: 2023-07-09

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity: 58%  
 Test Distance: 9.767m [K=1.0000]  
 Remarks:

**ZONAL FLUX DIAGRAM**

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	6954	7526	7977	7992	7877	7522	7007	6843	0- 10	801.2	801.2	30.6,30.6
20	1431	1814	2429	2714	2401	1733	1276	1339	10- 20	1255	2056	78.4,78.4
30	347.0	375.4	372.0	368.9	342.1	309.2	305.1	322.2	20- 30	354.3	2410	91.9,91.9
40	124.2	124.9	129.3	129.3	124.3	115.7	114.8	121.5	30- 40	126.9	2537	96.8,96.8
50	44.05	41.51	39.17	37.25	35.60	36.28	38.88	43.59	40- 50	57.95	2595	99,99
60	9.889	9.265	9.001	9.018	8.616	8.587	9.099	10.23	50- 60	19.08	2614	99.7,99.7
70	3.433	3.119	3.072	3.012	2.810	2.834	3.124	3.615	60- 70	5.764	2620	99.9,99.9
80	0.3894	0.2811	0.1863	0.1622	0.1225	0.1551	0.2466	0.3492	70- 80	1.520	2622	100,100
90	0.0968	0.0969	0.0969	0.0970	0.0968	0.0936	0.0969	0.0970	80- 90	0.1344	2622	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): 2573.1 lm

%lum = 98.1%  
%lamp = 98.1%

Conical surface Flux(120deg): 2614.3 lm

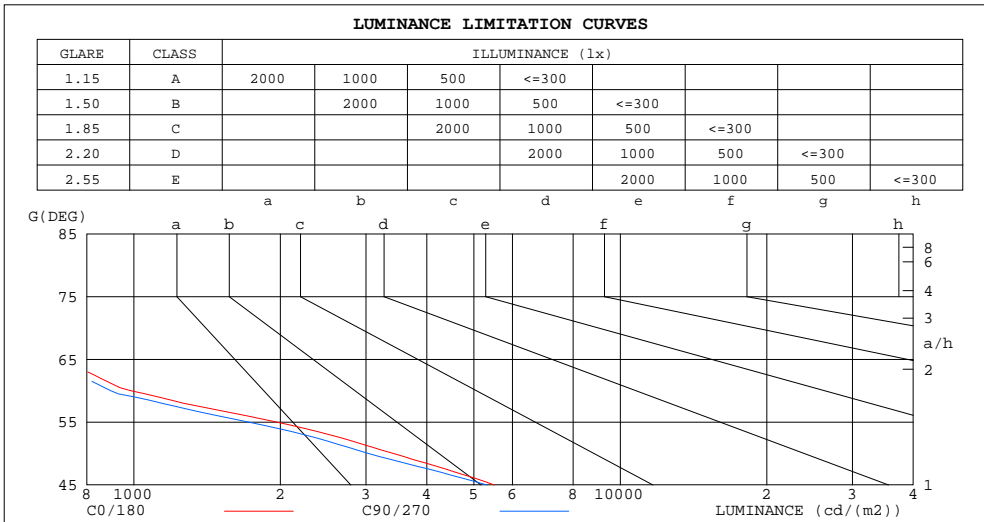
%lum = 99.7%  
%lamp = 99.7%

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-07-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:9.767m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	85	55
80	112	53
75	306	249
70	500	447
65	711	658
60	985	896
55	1964	1719
50	3413	3032
45	5504	5310

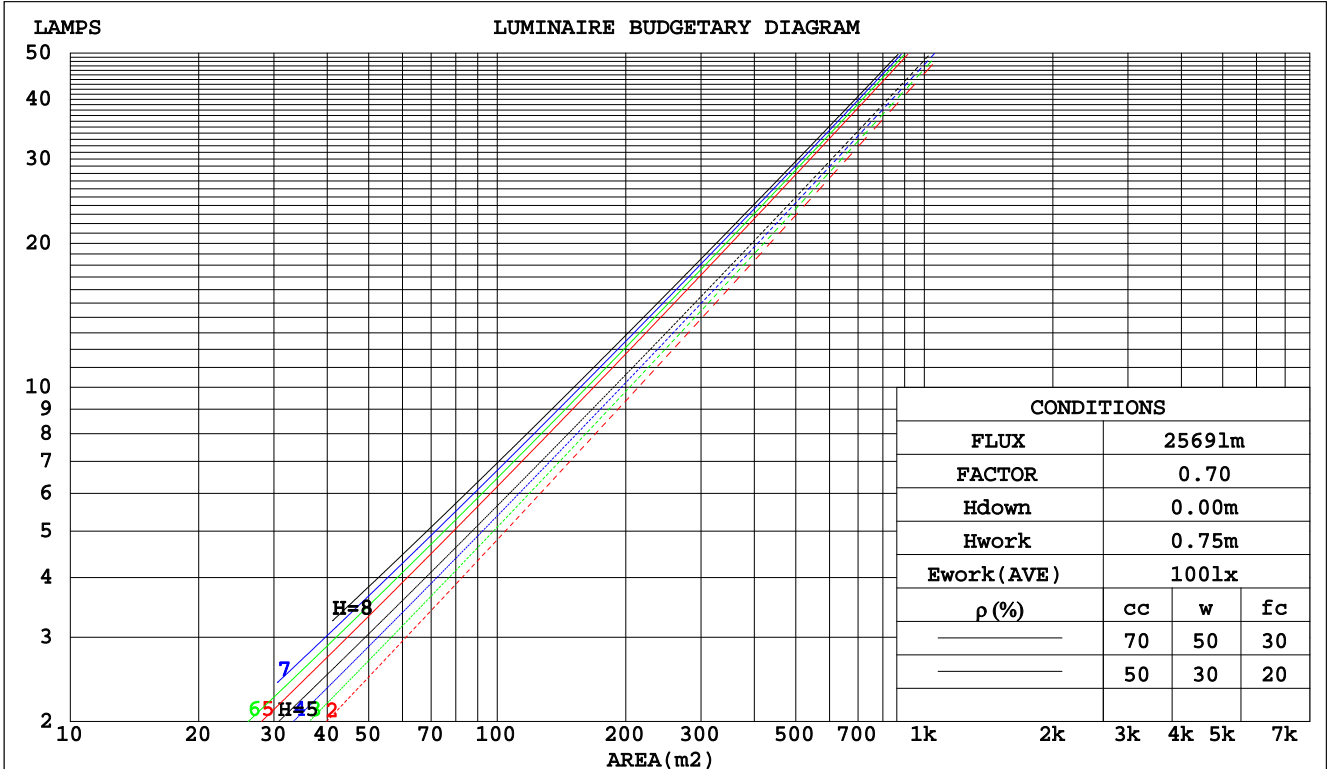
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-07-09

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:9.767m [K=1.0000]  
 Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	1.13	1.11	1.09	1.10	1.09	1.07	1.07	1.05	1.04	1.03	1.02	1.01	.99	.99	.98	.96
2.0	1.07	1.04	1.01	1.05	1.03	1.00	1.02	.99	.98	.99	.98	.96	.97	.95	.94	.93
3.0	1.02	.98	.95	1.01	.97	.95	.98	.95	.93	.96	.94	.92	.94	.92	.90	.89
4.0	.98	.94	.91	.97	.93	.90	.95	.92	.89	.93	.90	.88	.91	.89	.87	.86
5.0	.94	.90	.86	.93	.89	.86	.91	.88	.85	.90	.87	.85	.89	.86	.84	.83
6.0	.90	.86	.83	.90	.86	.83	.88	.85	.82	.87	.84	.82	.86	.83	.81	.80
7.0	.87	.83	.80	.87	.83	.80	.86	.82	.79	.85	.81	.79	.84	.81	.79	.77
8.0	.84	.80	.77	.84	.80	.77	.83	.79	.77	.82	.79	.76	.81	.78	.76	.75
9.0	.82	.77	.75	.81	.77	.74	.80	.77	.74	.80	.76	.74	.79	.76	.74	.73
10.0	.79	.75	.72	.79	.75	.72	.78	.75	.72	.78	.74	.72	.77	.74	.72	.71



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jasoan  
 Test Date: 2023-07-09

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity: 58%  
 Test Distance: 9.767m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.142	.081	.026	.136	.077	.025	.123	.071	.023	.112	.064	.021	.101	.059	.019	
2.0	.133	.073	.022	.127	.070	.022	.117	.065	.020	.107	.060	.019	.099	.056	.018	
3.0	.124	.066	.020	.119	.064	.019	.111	.060	.018	.103	.056	.017	.096	.053	.016	
4.0	.116	.061	.018	.113	.059	.017	.105	.056	.017	.099	.053	.016	.092	.050	.015	
5.0	.110	.056	.016	.107	.055	.016	.100	.052	.015	.095	.050	.015	.089	.048	.014	
6.0	.104	.052	.015	.101	.051	.015	.096	.049	.014	.091	.047	.014	.086	.045	.013	
7.0	.099	.049	.014	.097	.048	.014	.092	.046	.013	.087	.045	.013	.083	.043	.013	
8.0	.094	.046	.013	.092	.045	.013	.088	.044	.013	.084	.043	.012	.081	.041	.012	
9.0	.090	.044	.012	.088	.043	.012	.085	.042	.012	.081	.041	.012	.078	.040	.011	
10.0	.086	.041	.012	.085	.041	.011	.082	.040	.011	.078	.039	.011	.076	.038	.011	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.151	.133	.117	.129	.114	.101	.089	.079	.071	.051	.046	.041	.016	.015	.014	
3.0	.136	.113	.095	.117	.098	.082	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.124	.098	.078	.107	.085	.068	.073	.059	.048	.042	.035	.028	.014	.011	.009	
5.0	.114	.086	.065	.098	.074	.057	.067	.052	.040	.039	.030	.024	.013	.010	.008	
6.0	.105	.076	.055	.090	.066	.048	.062	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.098	.068	.047	.084	.059	.041	.058	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.091	.061	.040	.079	.053	.035	.054	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.086	.056	.035	.074	.048	.031	.051	.034	.022	.030	.020	.013	.010	.007	.004	
10.0	.081	.051	.031	.070	.044	.027	.048	.031	.019	.028	.018	.011	.009	.006	.004	

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-07-09

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:9.767m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
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	5.6	6.3	5.8	6.4	6.6	5.7	6.4	5.9	6.6	6.7
3H	5.5	6.1	5.7	6.3	6.5	5.6	6.3	5.9	6.5	6.7
4H	5.4	6.1	5.7	6.3	6.5	5.6	6.2	5.8	6.4	6.6
6H	5.4	5.9	5.6	6.2	6.4	5.5	6.1	5.8	6.3	6.5
8H	5.3	5.9	5.6	6.1	6.4	5.4	6.0	5.7	6.2	6.5
12H	5.3	5.8	5.6	6.1	6.3	5.4	5.9	5.7	6.2	6.5
4H 2H	5.4	6.0	5.7	6.2	6.5	5.6	6.2	5.8	6.4	6.6
3H	5.3	5.9	5.7	6.1	6.4	5.5	6.0	5.8	6.3	6.5
4H	5.3	5.8	5.6	6.1	6.4	5.4	5.9	5.7	6.2	6.5
6H	5.2	5.6	5.5	5.9	6.3	5.3	5.7	5.7	6.1	6.4
8H	5.1	5.5	5.5	5.9	6.2	5.3	5.7	5.6	6.0	6.4
12H	5.1	5.4	5.5	5.8	6.2	5.2	5.6	5.6	5.9	6.3
8H 4H	5.1	5.5	5.5	5.9	6.2	5.3	5.7	5.6	6.0	6.4
6H	5.0	5.4	5.4	5.7	6.2	5.1	5.5	5.6	5.9	6.3
8H	5.0	5.3	5.4	5.7	6.1	5.1	5.4	5.5	5.8	6.2
12H	4.9	5.2	5.4	5.6	6.1	5.0	5.3	5.5	5.7	6.2
12H 4H	5.1	5.4	5.5	5.8	6.2	5.2	5.6	5.6	5.9	6.3
6H	5.0	5.3	5.4	5.7	6.1	5.1	5.4	5.5	5.8	6.2
8H	4.9	5.2	5.4	5.6	6.1	5.0	5.3	5.5	5.7	6.2
Variations with the observer position at spacings:										
S = 1.0H	+ 2.2 / - 5.8					+ 2.5 / - 6.7				
1.5H	+ 2.9 / - 4.5					+ 3.6 / - 4.9				
2.0H	+ 4.9 / - 6.1					+ 5.0 / - 6.0				

CIE Pub.117, 2622 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.3)

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-07-09

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:9.767m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		

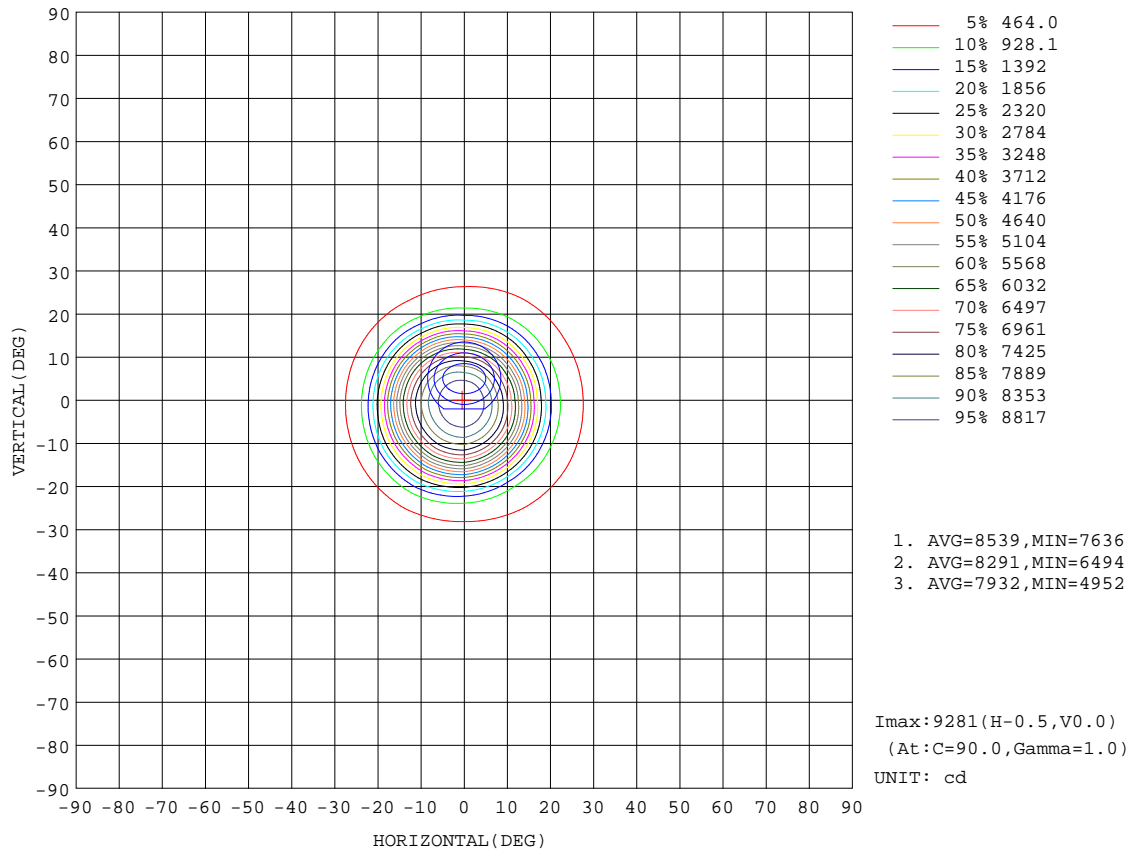
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	90	84	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	88	95	90	87	84
1.00	101	96	92	100	95	92	98	95	91	88
1.25	104	100	96	103	99	96	102	98	95	91
1.50	107	103	100	106	102	99	104	100	98	94
2.00	109	105	103	108	104	102	105	102	100	95
2.50	111	107	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	106	107	105	103	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	115	113	112	113	112	110	109	108	107	100
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-07-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:9.767m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-07-09

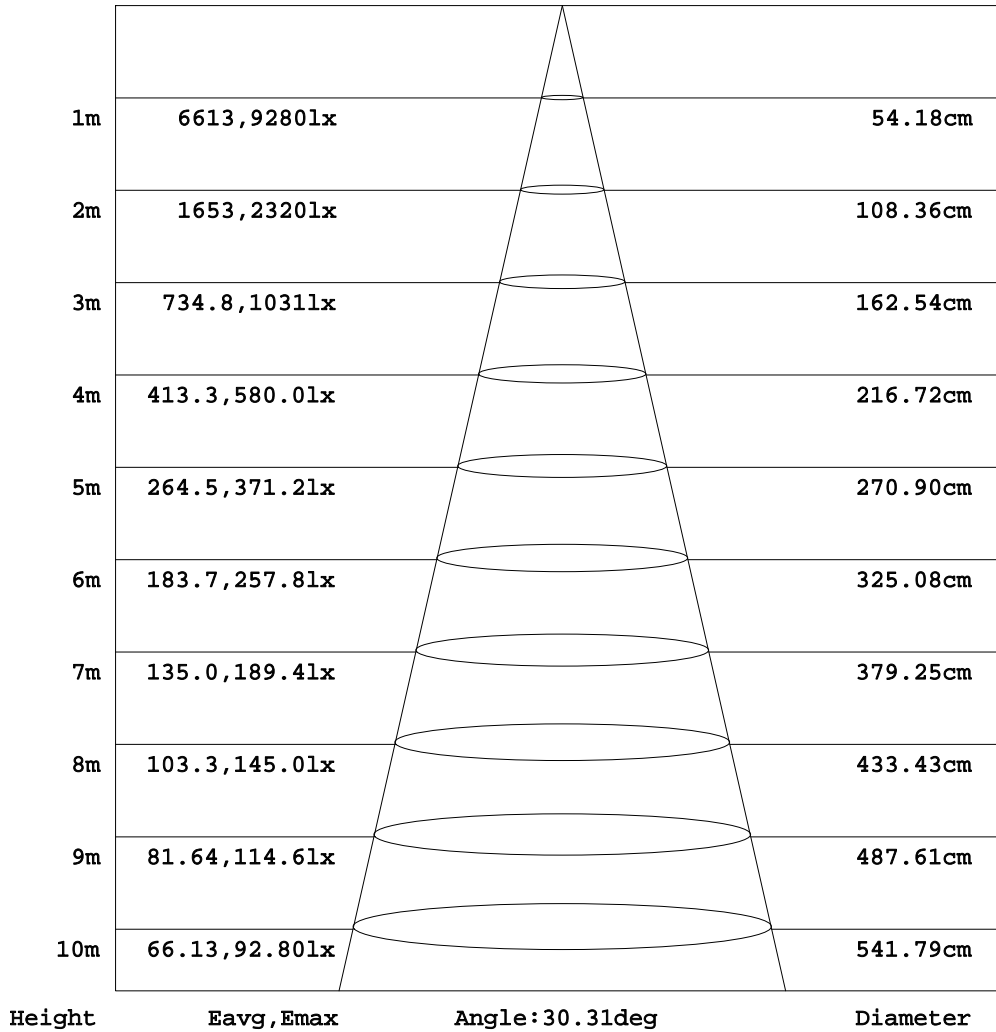
γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:9.767m [K=1.0000]  
 Remarks:



**AAI Figure**

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		

Flux out:1598 lm



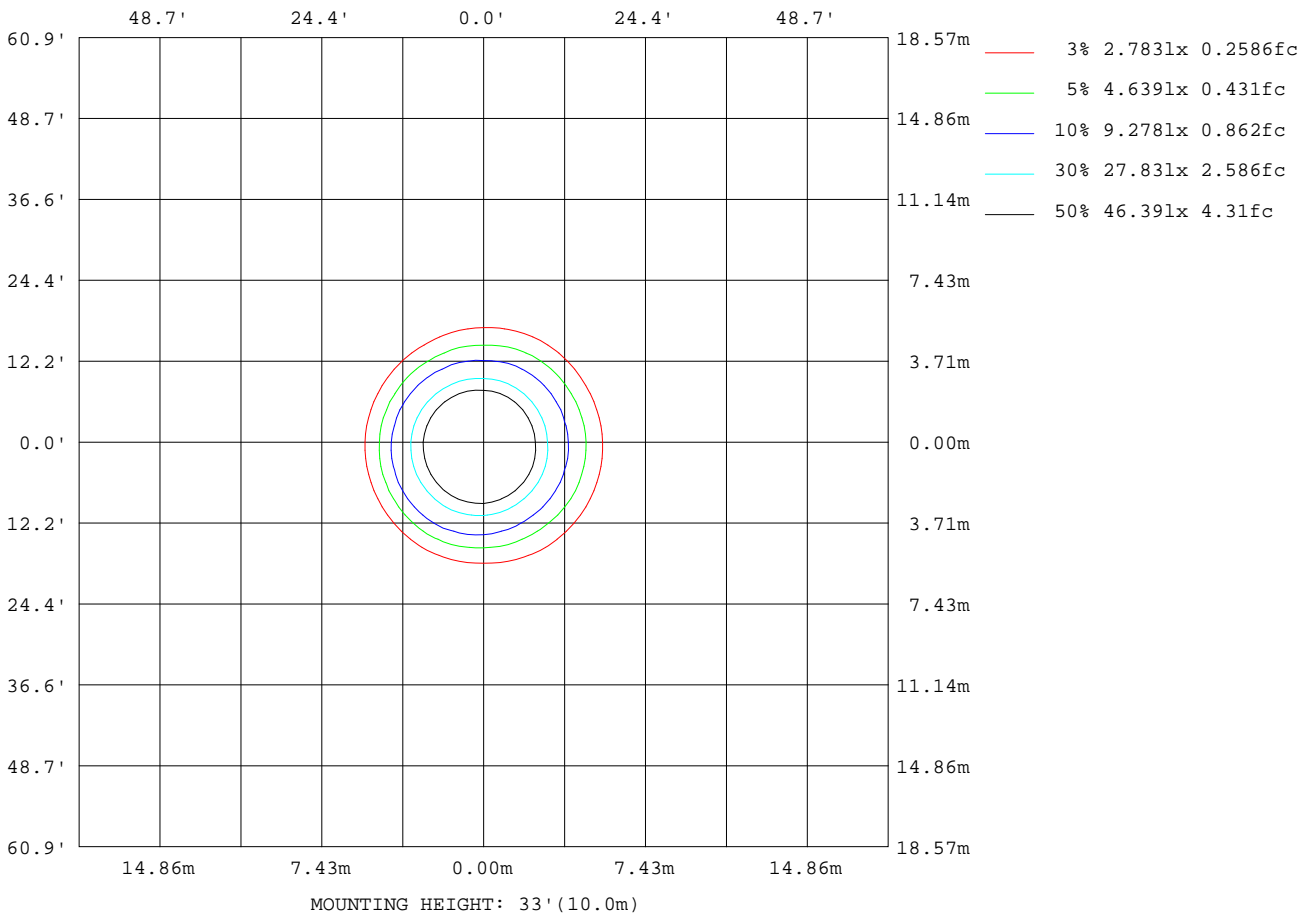
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-07-09

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:9.767m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-07-09

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:9.767m [K=1.0000]  
 Remarks:

**LED Avg.L Report**

Test:U:220.9V I:0.0910A P:19.09W PF:0.9497 Freq:49.90Hz Lamp Flux:2621.69x1 lm		
NAME: T150 Pro-17W-840-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ160mm*H100mm	
MFR.: NEKO LIGHTING AG		

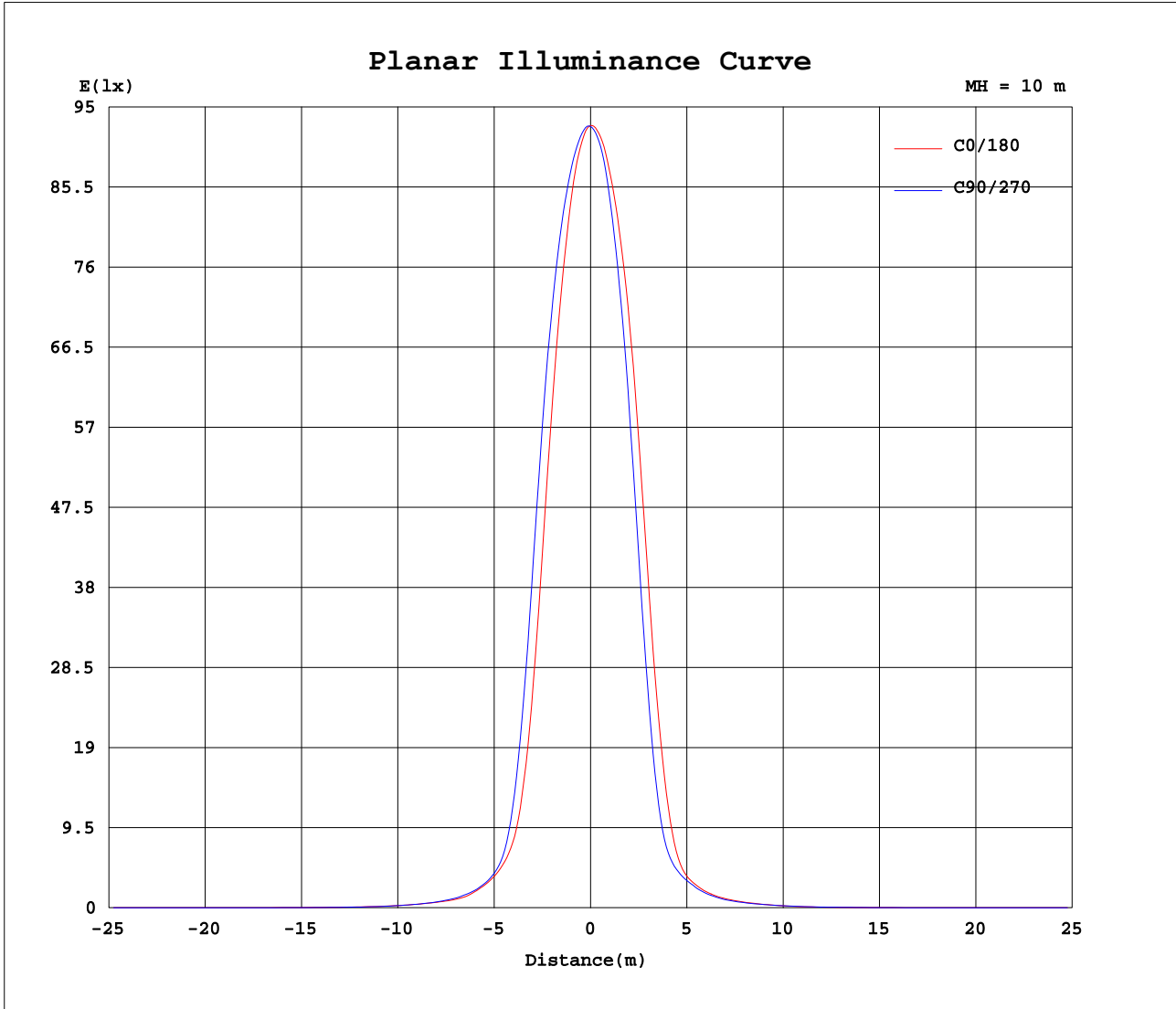
AvgL	cd/m2
L_0~180 (65) av	666
L_0~180 (75) av	256
L_0~180 (85) av	72
L_90~270 (65) av	661
L_90~270 (75) av	255
L_90~270 (85) av	63
L_45 (65) av	675
L_45 (75) av	257
L_45 (85) av	64

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-07-09

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:9.767m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jasoan  
 Test Date: 2023-07-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity: 58%  
 Test Distance: 9.767m [K=1.0000]  
 Remarks:

