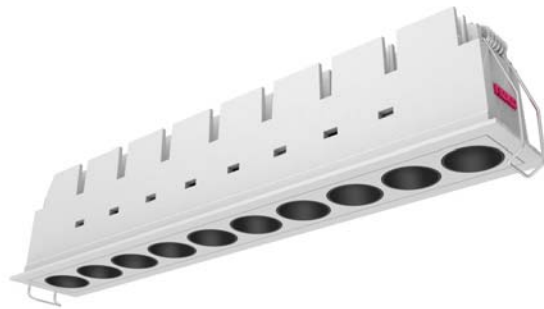


LED Downlight FUSION Serie FF10-22W-940-40D



Light Output Ratio:	100.0%	
Luminaire Power:	25.04 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.65	fine grid method.

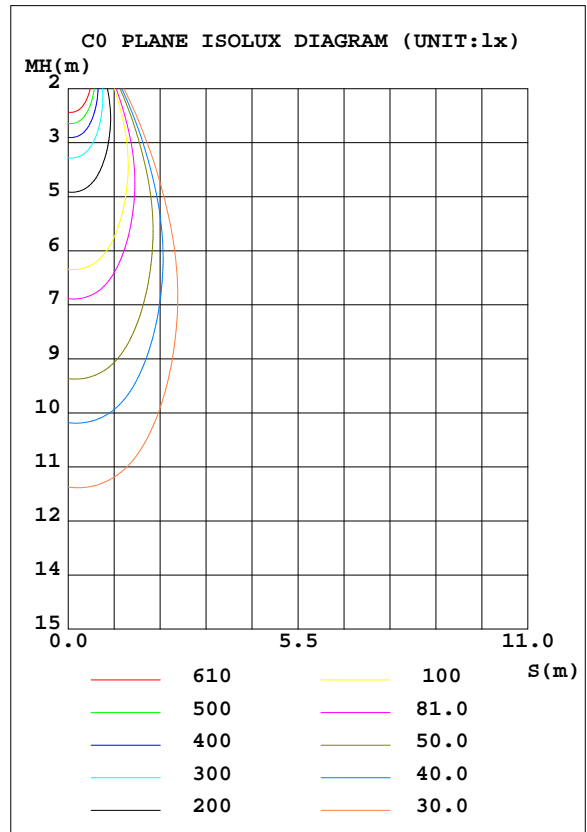
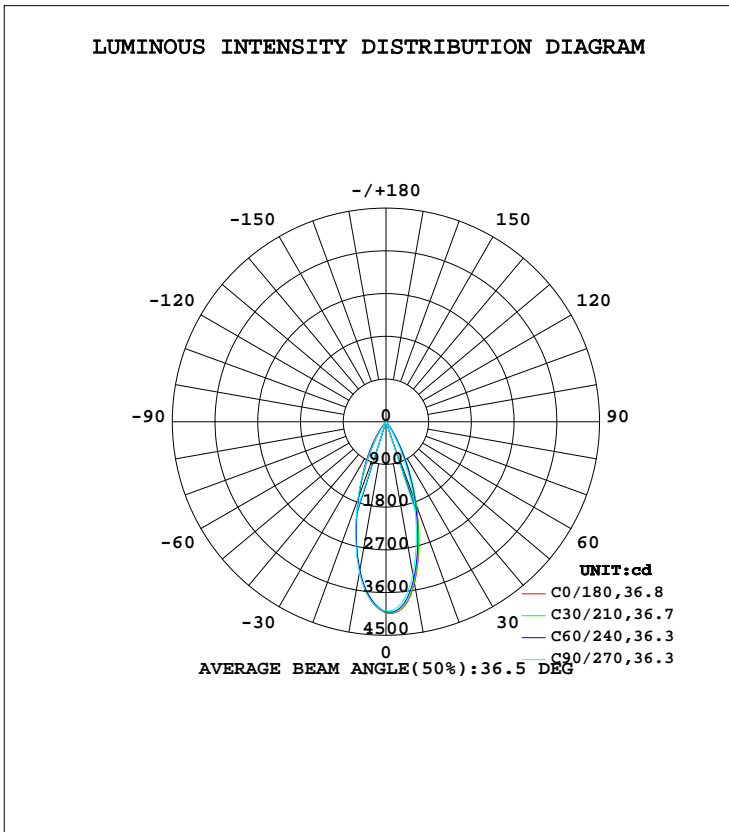
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Myles
Test Date: 2018-09-06

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:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 67.88 lm/W			
MODEL	OSRAM-4000K	I _{max} (cd)	4039	S/MH(C0/180)	0.58
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	0.59
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	1700.0	η UP, DN(C0-180)	0.0,49.6
NOMINAL FLUX(lm)	1700	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,50.4
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



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-09-06

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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	3456	3436	3262	3174	3202	3156	3224	3364	0- 10	347.0	347.0	20.4,20.4
20	1875	1855	1719	1670	1691	1663	1729	1831	10- 20	689.5	1036	61,61
30	478.1	700.2	422.4	637.4	478.5	661.1	522.7	713.9	20- 30	497.1	1534	90.2,90.2
40	20.69	97.12	16.10	108.2	24.46	138.3	33.66	120.4	30- 40	151.2	1685	99.1,99.1
50	1.525	2.441	1.556	2.615	1.778	4.164	1.556	3.578	40- 50	11.81	1697	99.8,99.8
60	0.8553	0.7804	0.9253	0.8219	0.9462	0.8595	0.9026	0.7851	50- 60	1.017	1698	99.9,99.9
70	0.6713	0.7829	0.7020	0.7741	0.6733	0.7810	0.6668	0.7499	60- 70	0.7577	1698	99.9,99.9
80	0.6690	0.9004	0.6810	0.9008	0.6209	0.8571	0.6351	0.8352	70- 80	0.8021	1699	100,100
90	0.6778	0.8134	0.6756	0.8571	0.5991	0.7390	0.6100	0.7325	80- 90	0.8061	1700	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): 1694.8 lm

%lum = 99.7%

%lamp = 99.7%

Conical surface Flux(120deg): 1697.6 lm

%lum = 99.9%

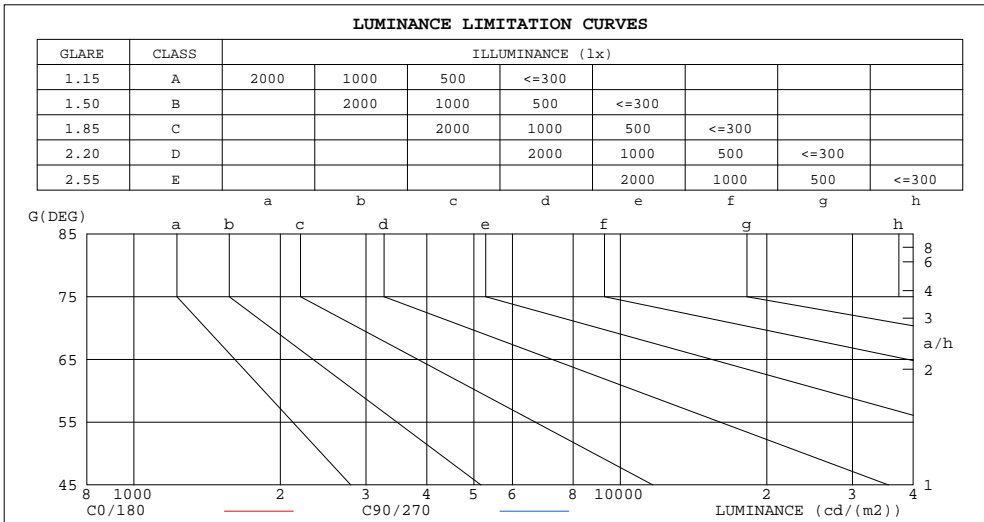
%lamp = 99.9%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-09-06

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:

LUMINANCE LIMITATION CURVES

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	598	606
80	295	301
75	193	201
70	150	157
65	132	141
60	131	142
55	145	157
50	182	185
45	291	240

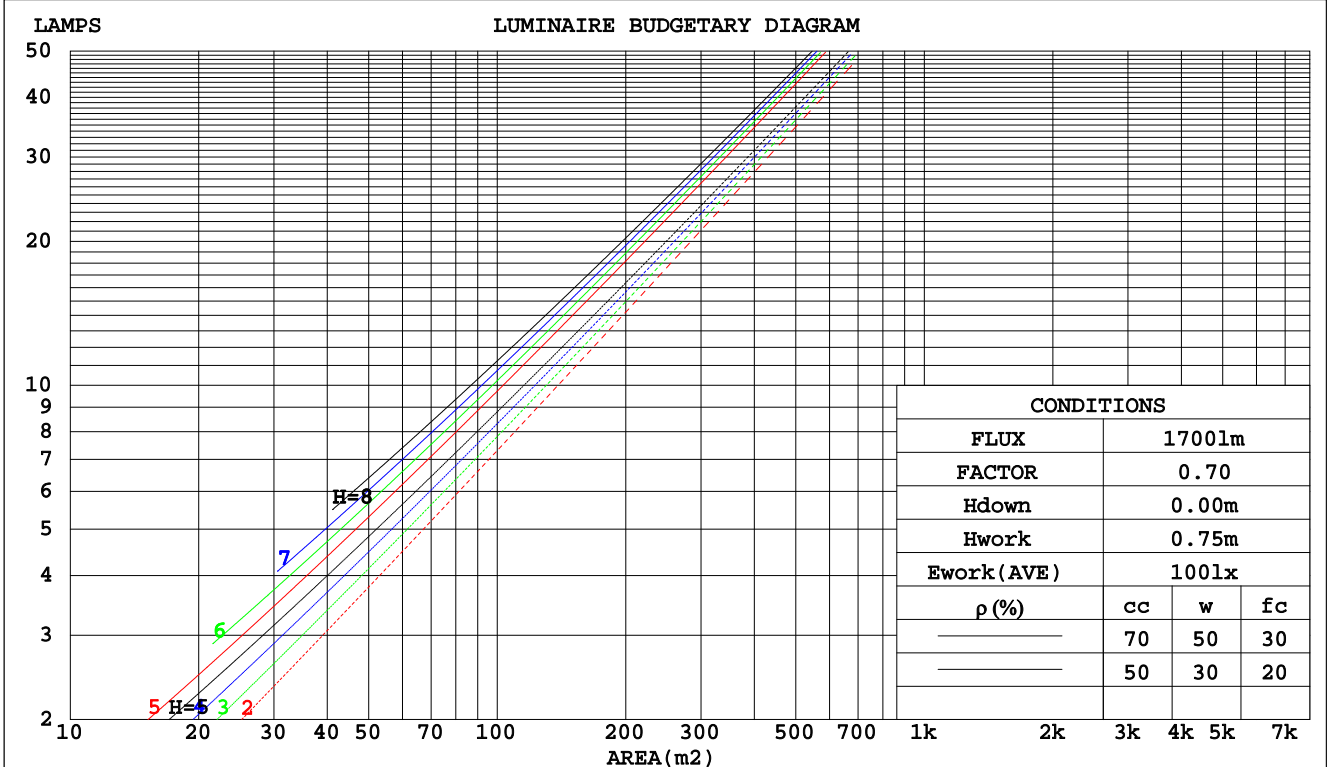
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-09-06

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc																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	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.06	1.02	.00	1.04	1.01	.98	1.01	.99	.96	.98	.96	.94	.95	.94	.92	.91
3.0	1.00	.96	.93	.99	.95	.92	.96	.93	.91	.94	.92	.89	.92	.90	.88	.87
4.0	.95	.91	.87	.94	.90	.87	.92	.89	.86	.90	.87	.85	.89	.86	.84	.83
5.0	.91	.86	.83	.90	.85	.82	.88	.84	.81	.87	.83	.81	.85	.82	.80	.79
6.0	.87	.82	.78	.86	.81	.78	.85	.81	.78	.83	.80	.77	.82	.79	.77	.75
7.0	.83	.78	.75	.82	.78	.74	.81	.77	.74	.80	.76	.74	.79	.76	.73	.72
8.0	.79	.75	.71	.79	.74	.71	.78	.74	.71	.77	.73	.70	.76	.73	.70	.69
9.0	.76	.71	.68	.76	.71	.68	.75	.71	.68	.74	.70	.68	.73	.70	.67	.66
10.0	.73	.68	.65	.73	.68	.65	.72	.68	.65	.71	.68	.65	.71	.67	.65	.64



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-09-06

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:

WEC AND CCEC

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
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	.153	.087	.028	.147	.084	.027	.134	.077	.025	.123	.071	.023	.112	.065	.021	
2.0	.144	.079	.024	.138	.076	.023	.128	.071	.022	.118	.066	.021	.110	.062	.020	
3.0	.136	.072	.022	.131	.070	.021	.122	.066	.020	.114	.063	.019	.107	.059	.018	
4.0	.128	.067	.020	.124	.065	.019	.117	.062	.019	.110	.059	.018	.104	.056	.017	
5.0	.122	.062	.018	.119	.061	.018	.112	.058	.017	.106	.056	.017	.101	.054	.016	
6.0	.116	.058	.017	.113	.057	.016	.108	.055	.016	.102	.053	.016	.098	.051	.015	
7.0	.111	.055	.016	.108	.054	.015	.104	.052	.015	.099	.051	.015	.095	.049	.014	
8.0	.106	.052	.015	.104	.051	.014	.100	.050	.014	.096	.048	.014	.092	.047	.014	
9.0	.102	.049	.014	.100	.049	.014	.096	.048	.013	.093	.046	.013	.089	.045	.013	
10.0	.098	.047	.013	.096	.047	.013	.093	.046	.013	.090	.045	.013	.087	.044	.012	

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	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011	
4.0	.127	.098	.076	.109	.085	.066	.075	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.117	.086	.063	.101	.075	.055	.069	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.109	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006	
7.0	.102	.069	.045	.088	.060	.039	.061	.042	.028	.035	.025	.017	.011	.008	.005	
8.0	.096	.062	.039	.083	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.091	.057	.034	.078	.049	.029	.054	.035	.021	.032	.020	.012	.010	.007	.004	
10.0	.086	.052	.030	.074	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-09-06

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:

UGR(Unified Glare Rating) Table

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*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	8.1	8.9	8.3	9.1	9.2	7.8	8.5	8.0	8.7	8.9
3H	8.0	8.7	8.2	8.9	9.1	7.6	8.3	7.9	8.5	8.7
4H	7.9	8.6	8.2	8.8	9.0	7.5	8.2	7.8	8.4	8.6
6H	7.8	8.5	8.1	8.7	8.9	7.5	8.1	7.7	8.3	8.6
8H	7.8	8.4	8.1	8.6	8.9	7.4	8.0	7.7	8.3	8.5
12H	7.7	8.3	8.1	8.6	8.9	7.4	8.0	7.7	8.2	8.5
4H 2H	7.9	8.6	8.2	8.8	9.0	7.5	8.2	7.8	8.4	8.6
3H	7.7	8.3	8.0	8.6	8.8	7.4	7.9	7.7	8.2	8.5
4H	7.6	8.2	8.0	8.5	8.8	7.3	7.8	7.6	8.1	8.4
6H	7.5	8.0	7.9	8.3	8.7	7.2	7.7	7.6	8.0	8.3
8H	7.5	7.9	7.9	8.3	8.7	7.2	7.6	7.5	7.9	8.3
12H	7.5	7.9	7.9	8.3	8.6	7.1	7.5	7.5	7.9	8.3
8H 4H	7.5	7.9	7.9	8.3	8.6	7.1	7.6	7.5	7.9	8.3
6H	7.4	7.8	7.8	8.2	8.6	7.1	7.4	7.5	7.8	8.2
8H	7.4	7.7	7.8	8.1	8.5	7.0	7.4	7.5	7.8	8.2
12H	7.3	7.6	7.8	8.1	8.5	7.0	7.3	7.5	7.7	8.2
12H 4H	7.4	7.8	7.8	8.2	8.6	7.1	7.5	7.5	7.9	8.2
6H	7.4	7.7	7.8	8.1	8.5	7.0	7.3	7.5	7.8	8.2
8H	7.3	7.6	7.8	8.0	8.5	7.0	7.3	7.5	7.7	8.2
Variations with the observer position at spacings:										
S = 1.0H	+ 2.8 / - 7.7					+ 2.7 / - 6.1				
1.5H	+ 5.6 / - 7.6					+ 5.4 / - 6.1				
2.0H	+ 0.3 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 1700 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.8)

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-09-06

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:

UTILIZATION FACTORS TABLE

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

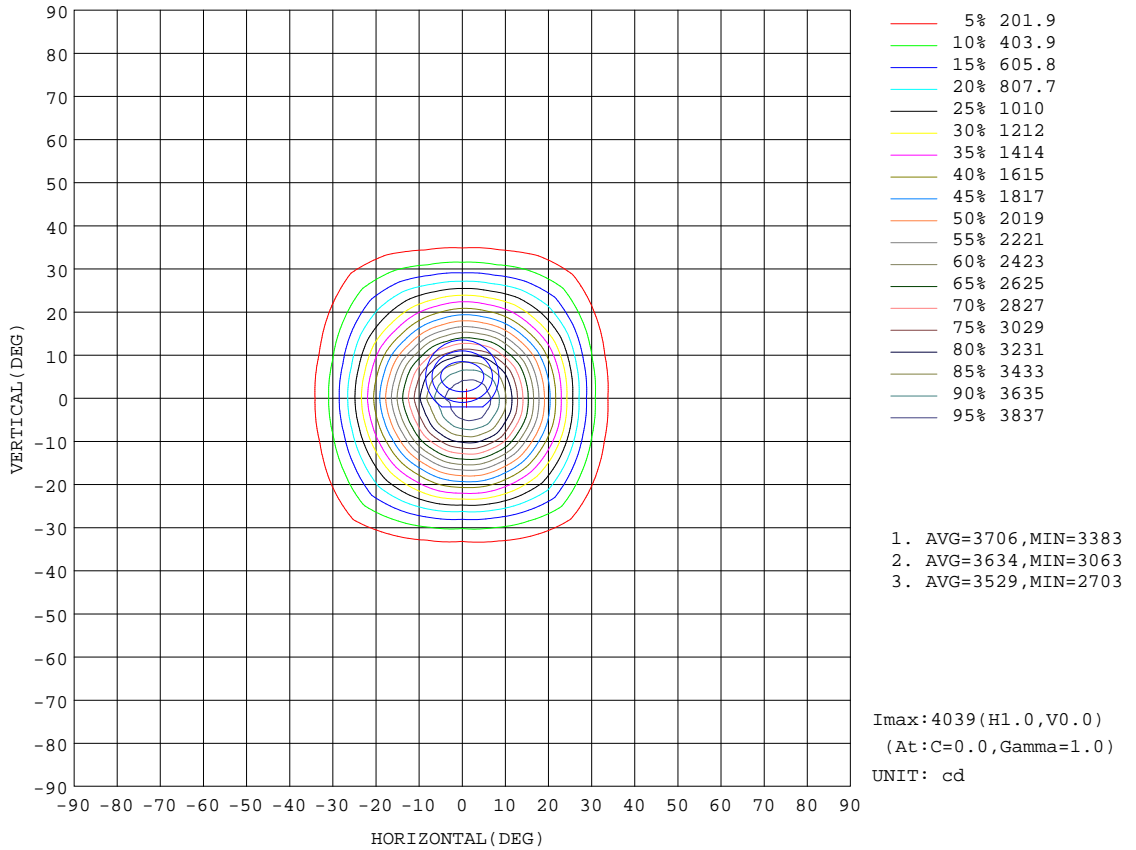
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	91	85	82	91	85	82	90	85	82	79
0.80	98	93	89	97	92	89	96	92	89	86
1.00	102	97	94	101	96	93	99	96	93	89
1.25	105	101	98	104	100	97	102	99	96	93
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			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-09-06

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:

ISOCANDELA DIAGRAM

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

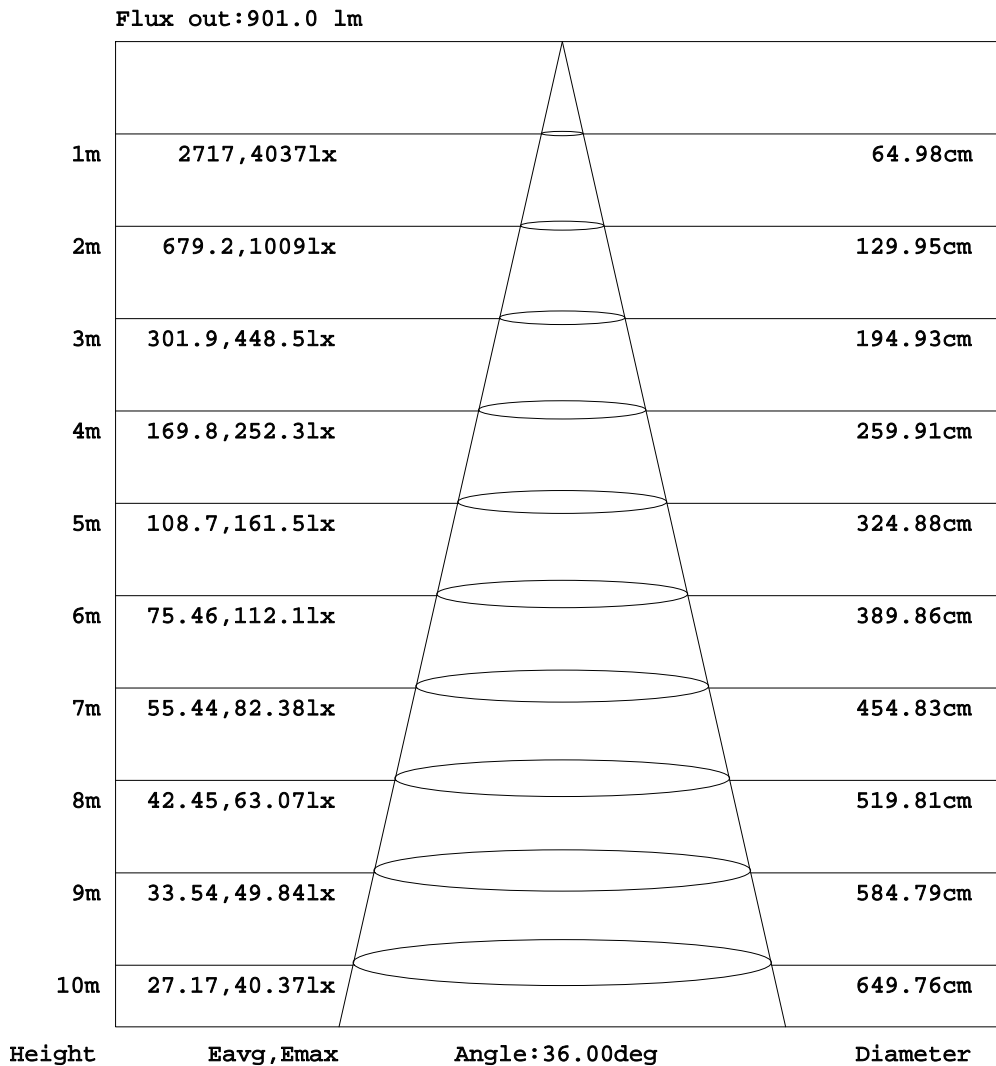


C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-09-06

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:

AAI Figure

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



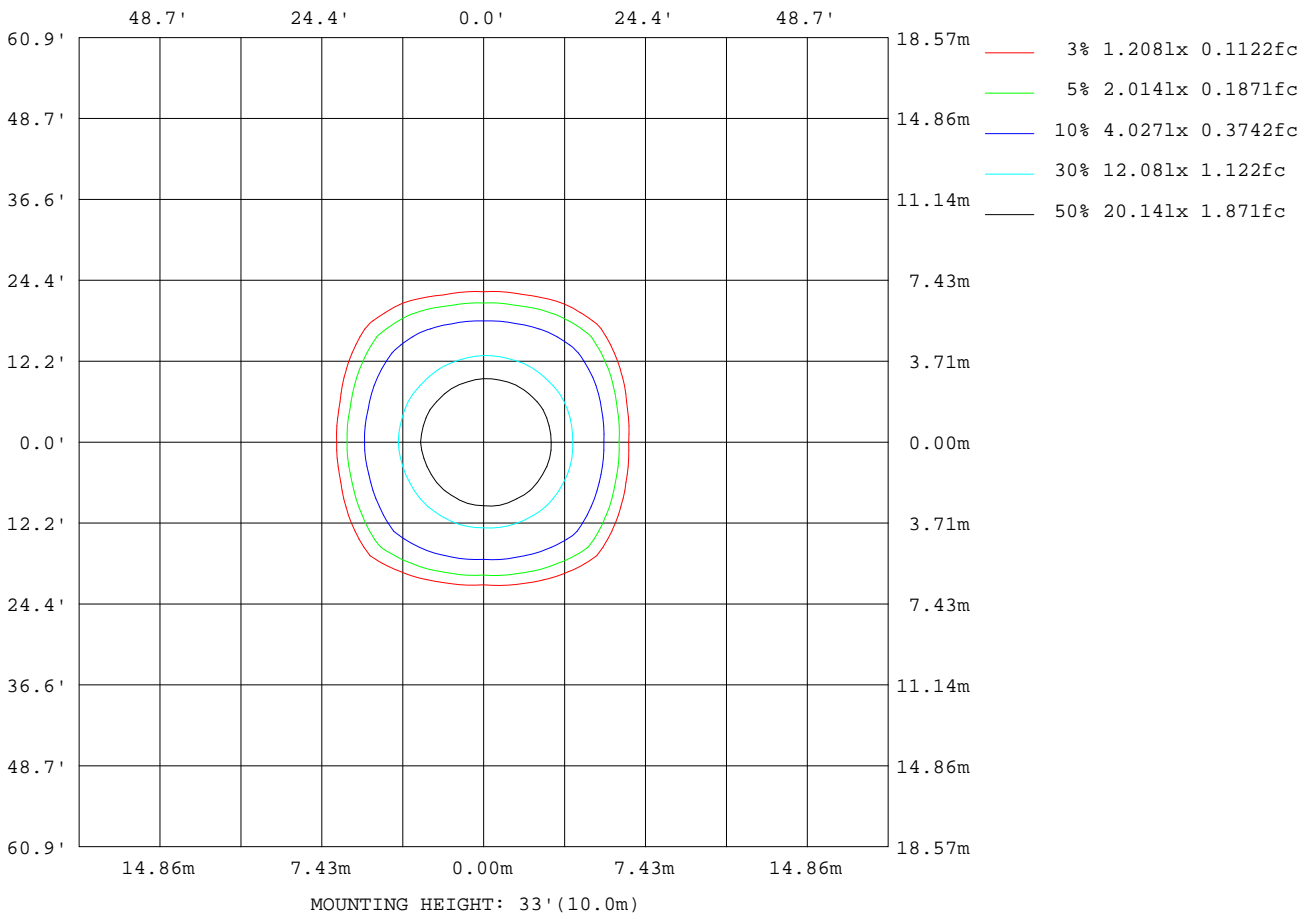
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-09-06

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:

ISOLUX DIAGRAM

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-09-06

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:

LED Avg.L Report

Test:U:220.4V I:0.1164A P:25.04W PF:0.9642 Freq:49.90Hz Lamp Flux:1700x1 lm		
NAME: FF10-22W-940-40D	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

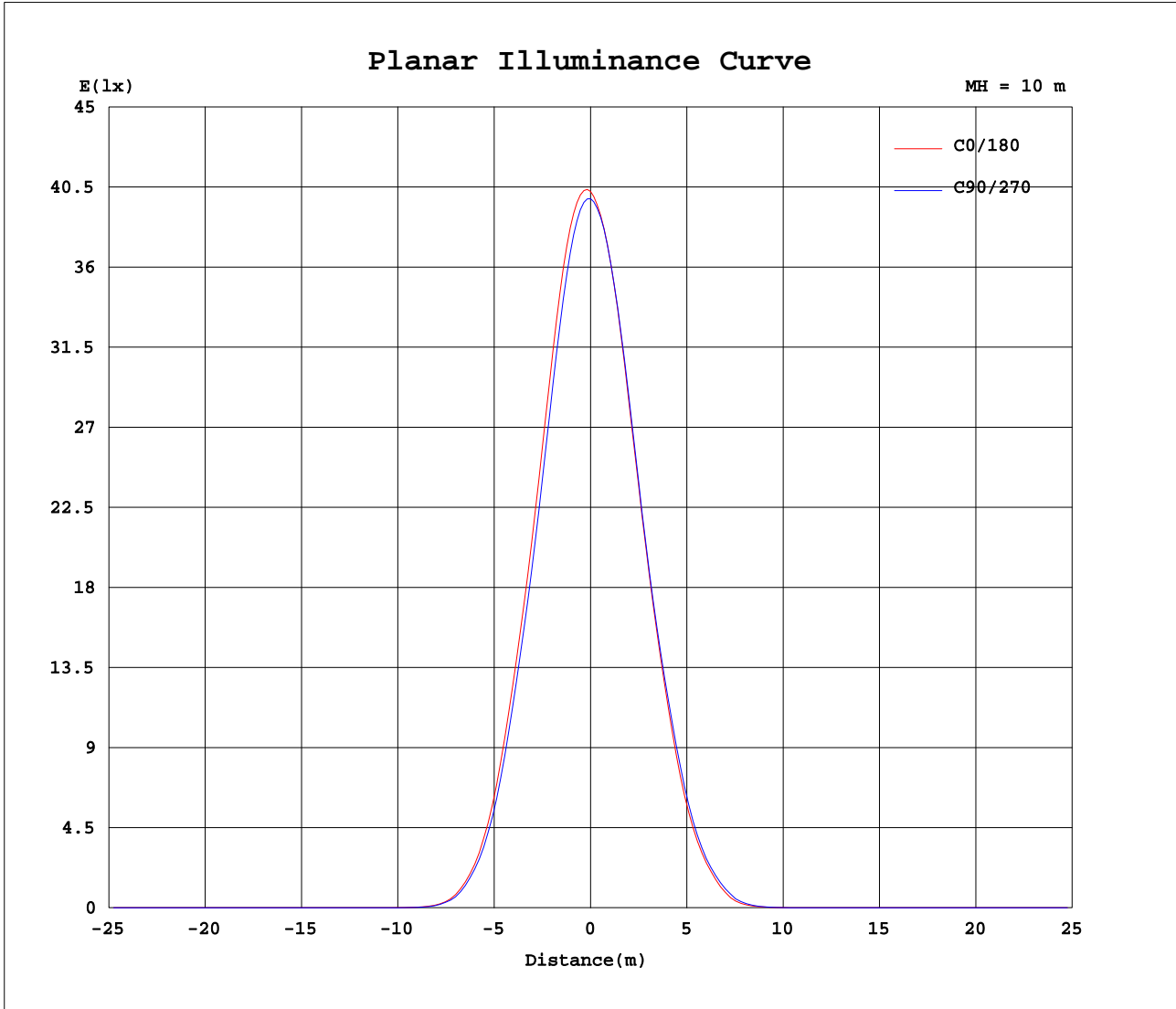
AvgL	cd/m2
L_0~180(65)av	136
L_0~180(75)av	190
L_0~180(85)av	569
L_90~270(65)av	138
L_90~270(75)av	195
L_90~270(85)av	581
L_45(65)av	138
L_45(75)av	248
L_45(85)av	745

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-09-06

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:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-09-06

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:

