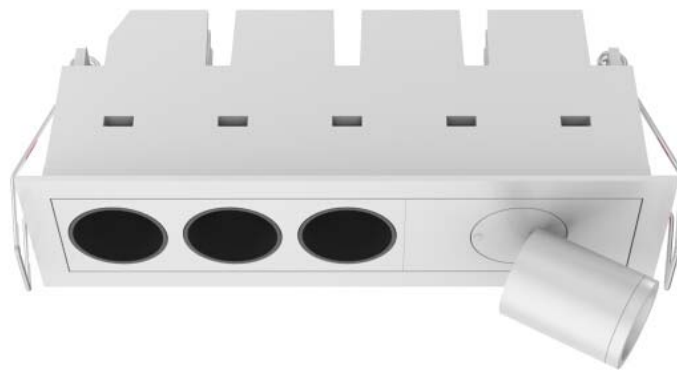


LED Downlight FUSION Series FF3-FS1-9W-930-40D



Light Output Ratio:	100.0%	
Luminaire Power:	10.64 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.60	fine grid method.

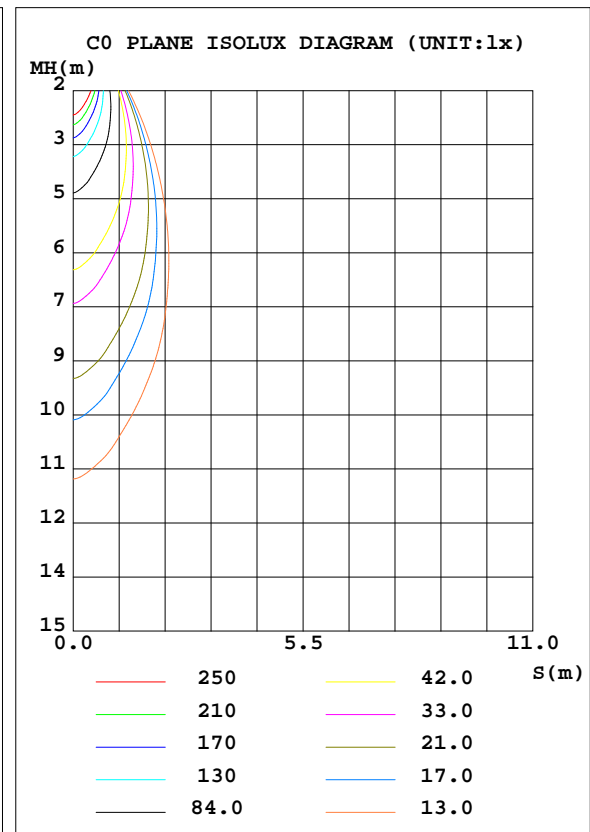
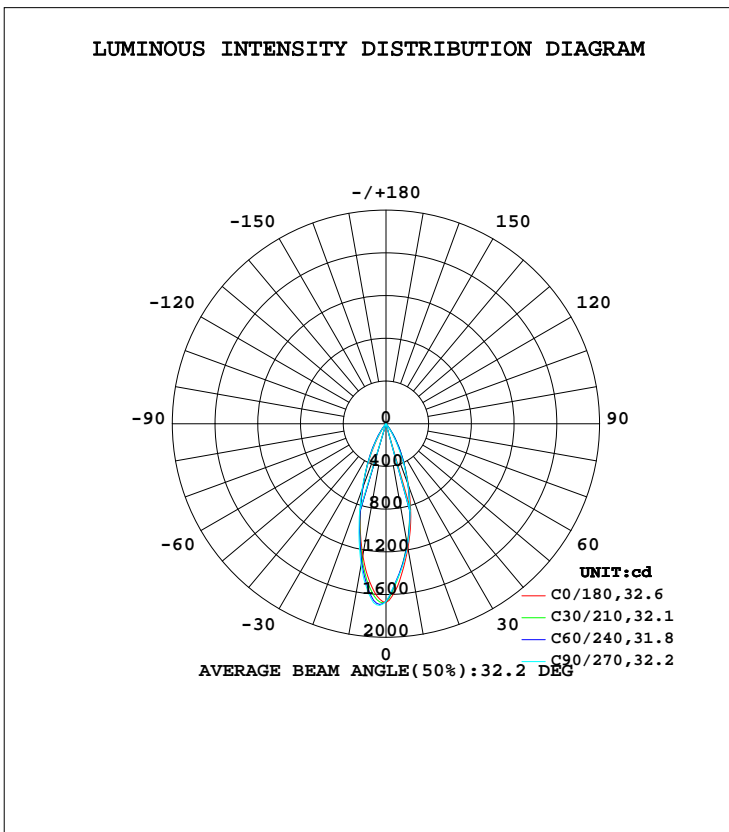
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 59.78 lm/W			
MODEL	OSRAM-3000K	I _{max} (cd)	1701	S/MH(C0/180)	0.54
NOMINAL POWER(W)	11	LOR(%)	100.0	S/MH(C90/270)	0.56
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	635.89	η UP, DN(C0-180)	0.0,48.1
NOMINAL FLUX(lm)	635.894	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,51.9
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	0.60



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-06-08

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	1182	1150	1161	1186	1252	1286	1340	1298	0- 10	135.5	135.5	21.3,21.3
20	618.8	608.0	598.1	613.2	636.4	631.4	657.6	634.5	10- 20	251.1	386.6	60.8,60.8
30	192.0	241.1	168.9	232.9	177.8	240.1	198.6	242.1	20- 30	178.8	565.4	88.9,88.9
40	14.60	43.36	12.21	37.98	14.37	43.92	19.58	51.10	30- 40	56.69	622.1	97.8,97.8
50	5.798	5.378	4.338	4.767	5.494	6.740	7.103	7.076	40- 50	8.559	630.6	99.2,99.2
60	2.497	2.054	1.832	1.857	2.289	2.728	3.162	2.870	50- 60	3.384	634.0	99.7,99.7
70	0.8718	0.5105	0.3160	0.3421	0.6367	1.092	1.439	1.254	60- 70	1.555	635.6	100,100
80	0.0350	0.0262	0.0372	0.0306	0.0131	0.0306	0.0262	0.0328	70- 80	0.2857	635.9	100,100
90	0.0241	0.0262	0.0284	0.0284	0.0131	0.0153	0.0087	0.0153	80- 90	0.0264	635.9	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): 627.7 lm

%lum = 98.7%
%lamp = 98.7%

Conical surface Flux(120deg): 634.03 lm

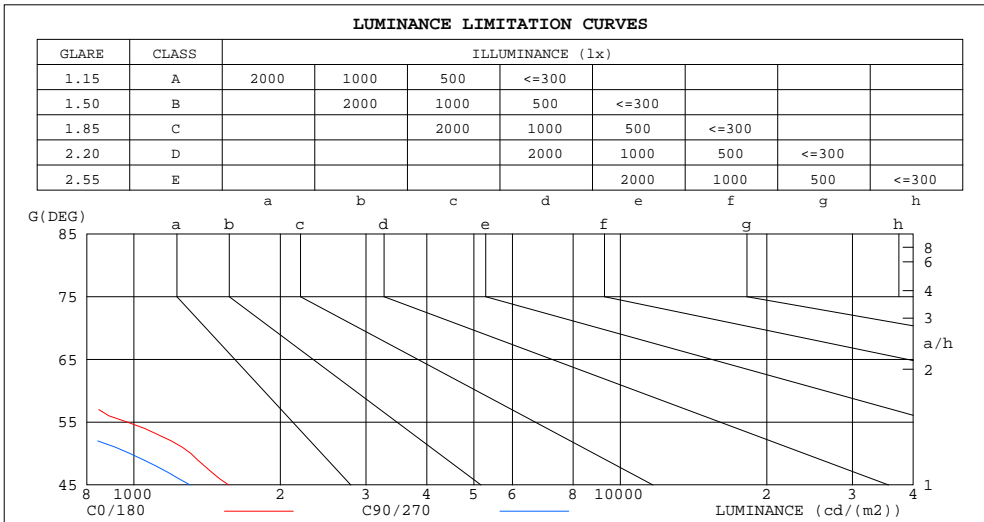
%lum = 99.7%
%lamp = 99.7%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	44	47
80	29	31
75	59	29
70	370	134
65	564	342
60	725	532
55	968	698
50	1310	980
45	1566	1304

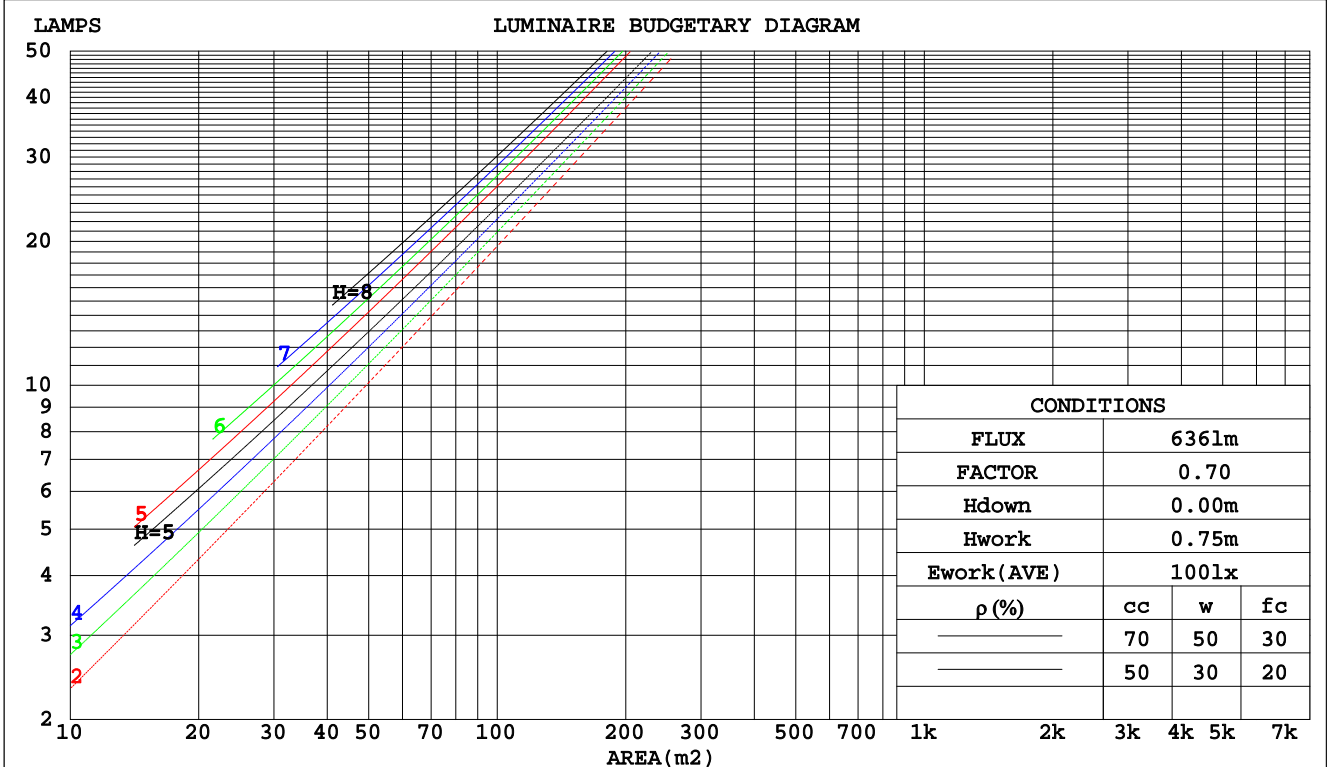
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*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																
pfc																
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	1.12	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	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.94	.92	.91
3.0	1.00	.96	.93	.99	.95	.92	.96	.93	.90	.94	.91	.89	.92	.90	.88	.86
4.0	.95	.91	.87	.94	.90	.86	.92	.88	.86	.90	.87	.85	.88	.86	.84	.82
5.0	.91	.86	.82	.90	.85	.82	.88	.84	.81	.86	.83	.80	.85	.82	.80	.79
6.0	.86	.82	.78	.86	.81	.78	.84	.80	.77	.83	.79	.77	.82	.79	.76	.75
7.0	.83	.78	.74	.82	.77	.74	.81	.77	.74	.80	.76	.73	.79	.75	.73	.72
8.0	.79	.74	.71	.79	.74	.71	.78	.73	.70	.77	.73	.70	.76	.72	.70	.69
9.0	.76	.71	.68	.76	.71	.68	.75	.70	.68	.74	.70	.67	.73	.70	.67	.66
10.0	.73	.68	.65	.73	.68	.65	.72	.68	.65	.71	.67	.65	.71	.67	.64	.63



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*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	.154	.088	.028	.147	.084	.027	.135	.077	.025	.123	.071	.023	.113	.065	.021	
2.0	.145	.080	.024	.140	.077	.024	.129	.072	.022	.120	.067	.021	.111	.063	.020	
3.0	.137	.073	.022	.132	.071	.021	.124	.067	.020	.115	.063	.019	.108	.060	.018	
4.0	.130	.067	.020	.126	.066	.019	.118	.063	.019	.111	.060	.018	.105	.057	.017	
5.0	.123	.063	.018	.120	.061	.018	.113	.059	.017	.107	.057	.017	.102	.054	.016	
6.0	.117	.059	.017	.114	.058	.017	.109	.056	.016	.103	.054	.016	.098	.052	.015	
7.0	.112	.055	.016	.109	.054	.016	.104	.053	.015	.100	.051	.015	.095	.050	.015	
8.0	.107	.052	.015	.105	.052	.015	.100	.050	.014	.096	.049	.014	.092	.047	.014	
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.093	.047	.013	.090	.046	.013	
10.0	.099	.047	.013	.097	.047	.013	.093	.046	.013	.090	.045	.013	.087	.044	.013	

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	.170	.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	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.110	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006	
7.0	.103	.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	.079	.049	.029	.054	.035	.021	.032	.020	.012	.010	.007	.004	
10.0	.087	.052	.029	.075	.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:2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*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	11.3	12.0	11.5	12.2	12.4	10.6	11.3	10.8	11.5	11.6
3H	11.2	11.9	11.4	12.1	12.3	10.4	11.1	10.7	11.3	11.5
4H	11.1	11.8	11.3	12.0	12.2	10.3	11.0	10.6	11.2	11.4
6H	11.0	11.6	11.3	11.9	12.1	10.2	10.9	10.5	11.1	11.4
8H	10.9	11.6	11.2	11.8	12.1	10.2	10.8	10.5	11.1	11.3
12H	10.9	11.5	11.2	11.8	12.0	10.2	10.7	10.5	11.0	11.3
4H 2H	11.1	11.7	11.3	11.9	12.2	10.3	11.0	10.6	11.2	11.5
3H	10.9	11.5	11.2	11.8	12.1	10.2	10.8	10.5	11.0	11.3
4H	10.8	11.4	11.2	11.7	12.0	10.1	10.6	10.4	10.9	11.2
6H	10.7	11.2	11.1	11.5	11.9	10.0	10.5	10.4	10.8	11.1
8H	10.7	11.1	11.1	11.5	11.8	9.9	10.4	10.3	10.7	11.1
12H	10.6	11.0	11.0	11.4	11.8	9.9	10.3	10.3	10.7	11.0
8H 4H	10.7	11.1	11.1	11.5	11.8	9.9	10.4	10.3	10.7	11.1
6H	10.6	10.9	11.0	11.3	11.7	9.8	10.2	10.3	10.6	11.0
8H	10.5	10.8	11.0	11.3	11.7	9.8	10.1	10.2	10.5	11.0
12H	10.5	10.7	10.9	11.2	11.6	9.7	10.0	10.2	10.4	10.9
12H 4H	10.6	11.0	11.0	11.4	11.8	9.9	10.3	10.3	10.7	11.1
6H	10.5	10.8	11.0	11.3	11.7	9.8	10.1	10.2	10.5	11.0
8H	10.5	10.7	10.9	11.2	11.6	9.7	10.0	10.2	10.4	10.9
Variations with the observer position at spacings:										
S = 1.0H	+ 2.7 / - 5.2					+ 2.3 / - 6.3				
1.5H	+ 4.7 / - 4.5					+ 4.3 / - 4.6				
2.0H	+ 2.6 / - 2.6					+ 2.5 / - 2.8				

CIE Pub.117, 635.9 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.6)

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

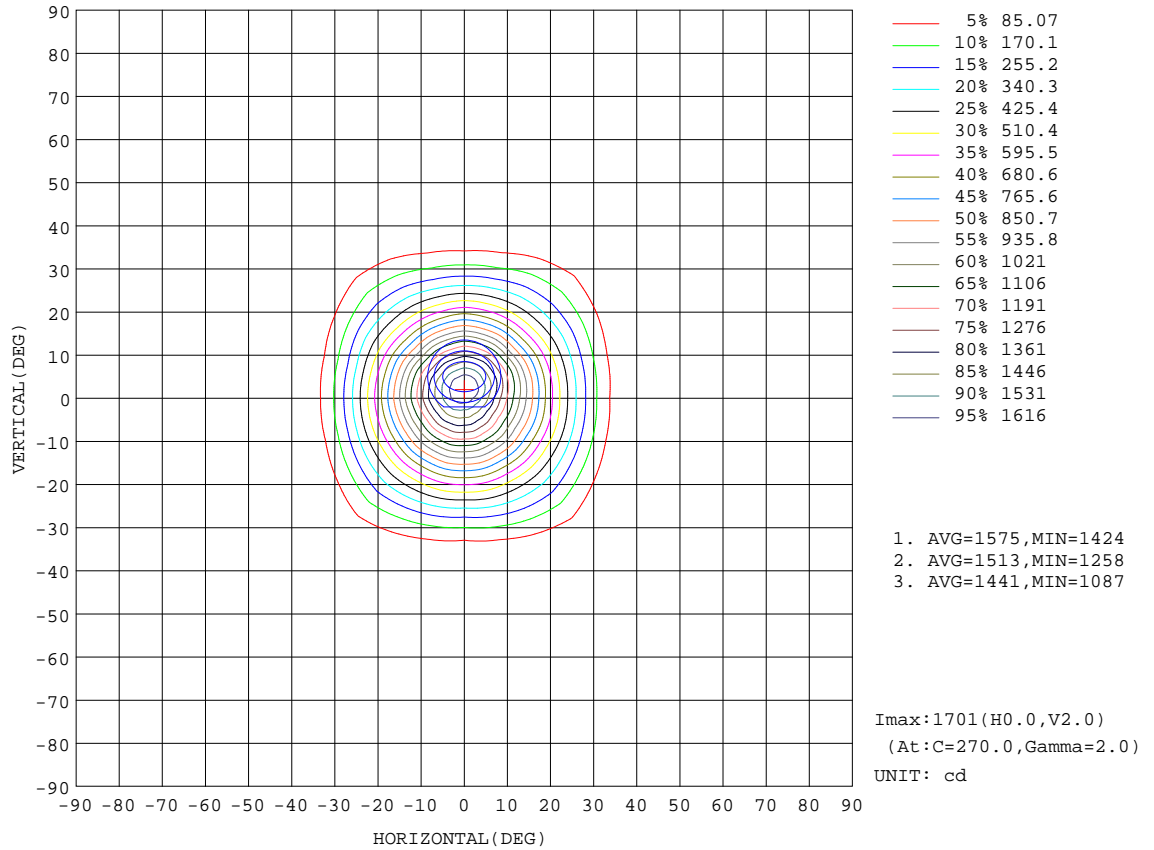
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	90	84	81	90	84	81	89	84	81	77
0.80	97	92	89	97	92	88	95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

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

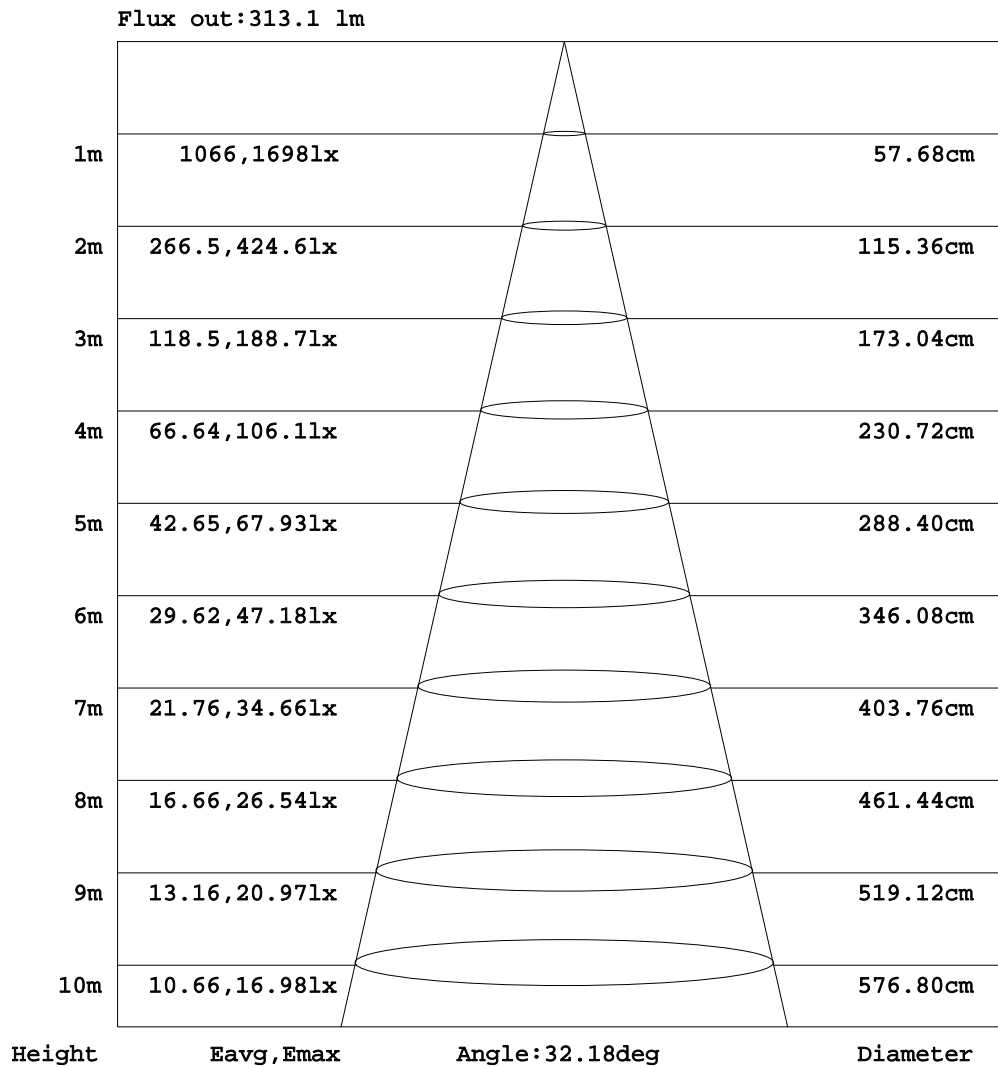


C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



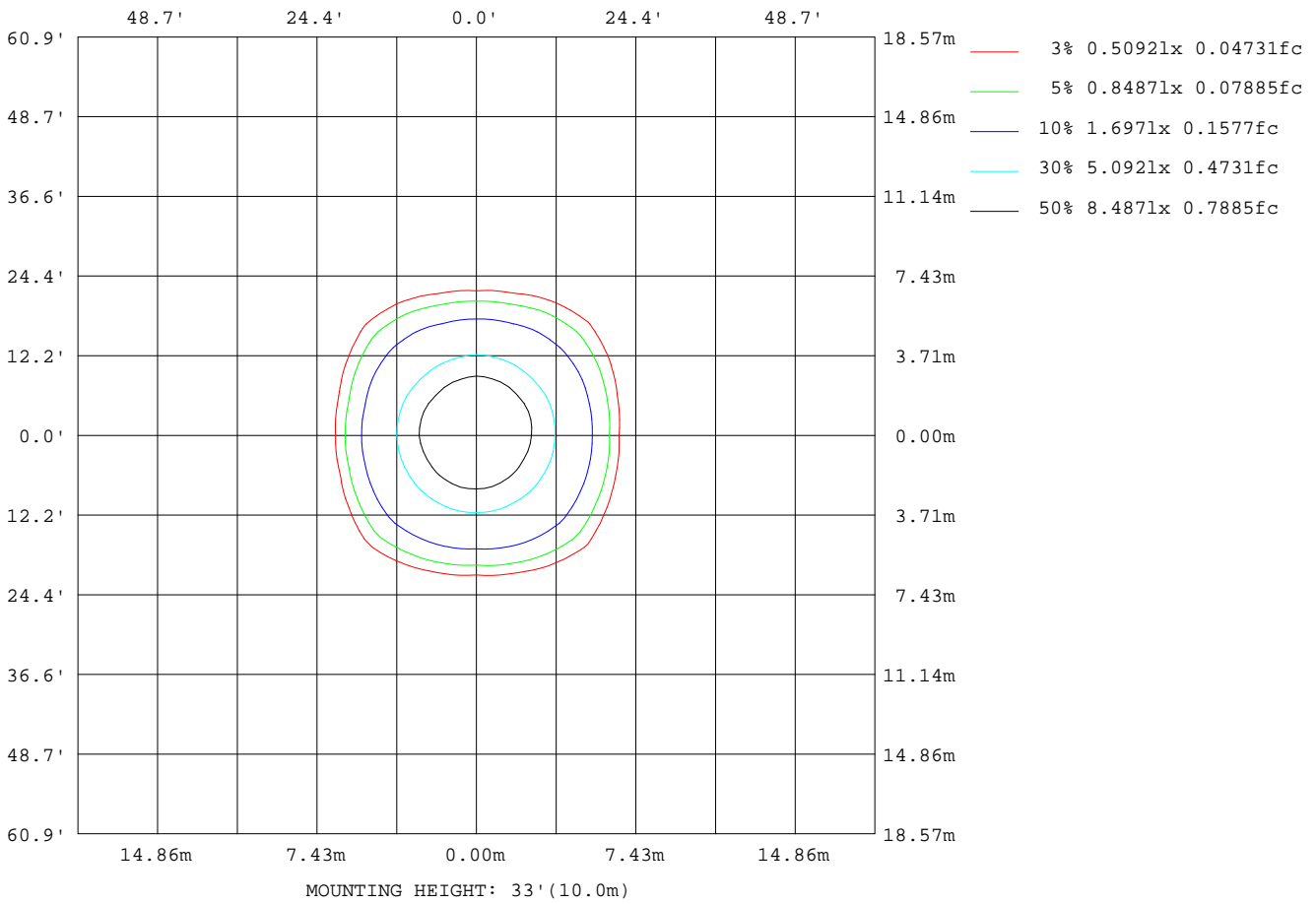
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-06-08

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:0.0554A P:10.64W PF:0.8642 Freq:49.90Hz Lamp Flux:635.894x1 lm		
NAME: FF3-FS1-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L153mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

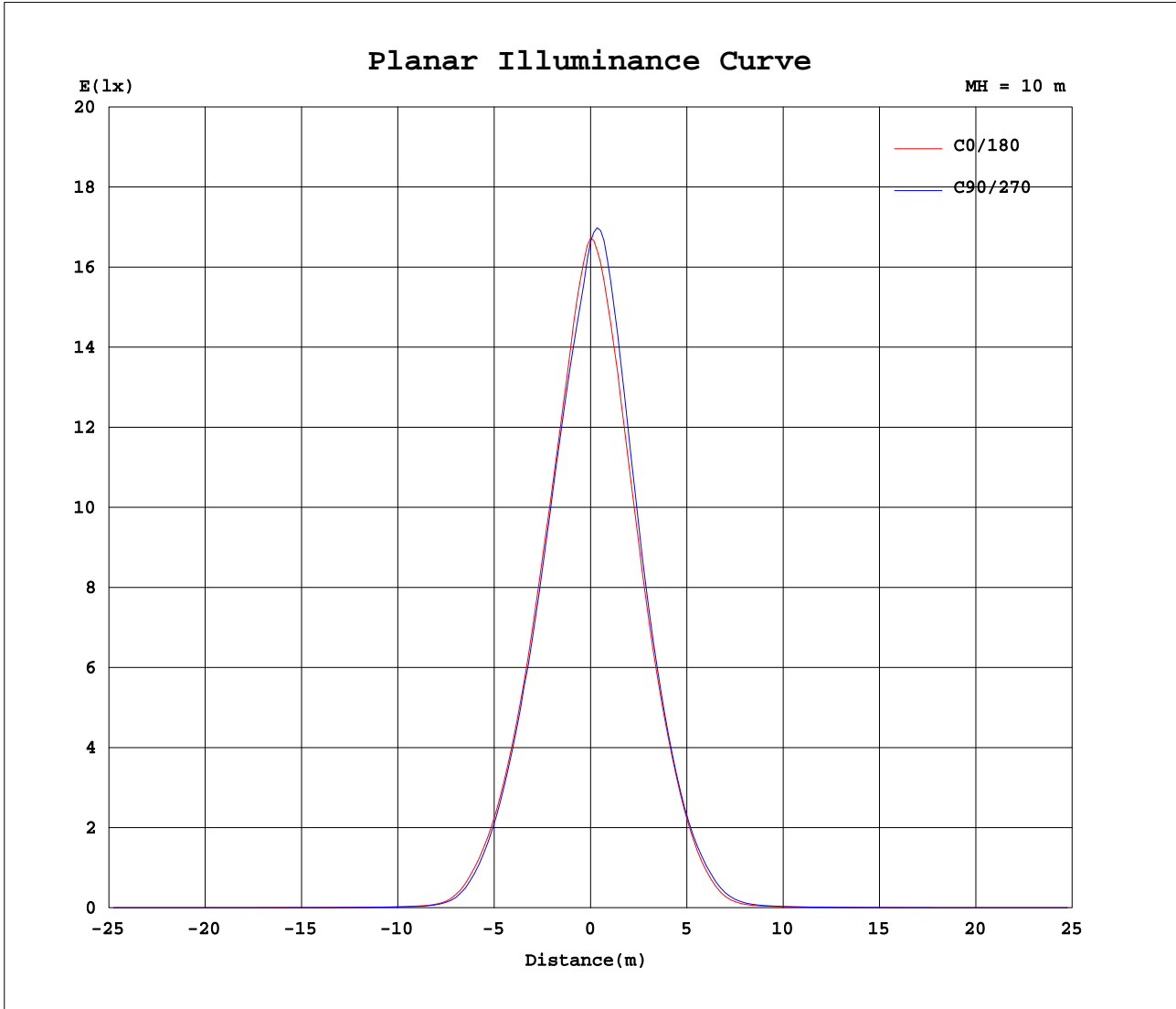
AvgL	cd/m2
L_0~180(65)av	526
L_0~180(75)av	39
L_0~180(85)av	33
L_90~270(65)av	559
L_90~270(75)av	189
L_90~270(85)av	35
L_45(65)av	529
L_45(75)av	100
L_45(85)av	41

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-06-08

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: 2018-06-08

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:

