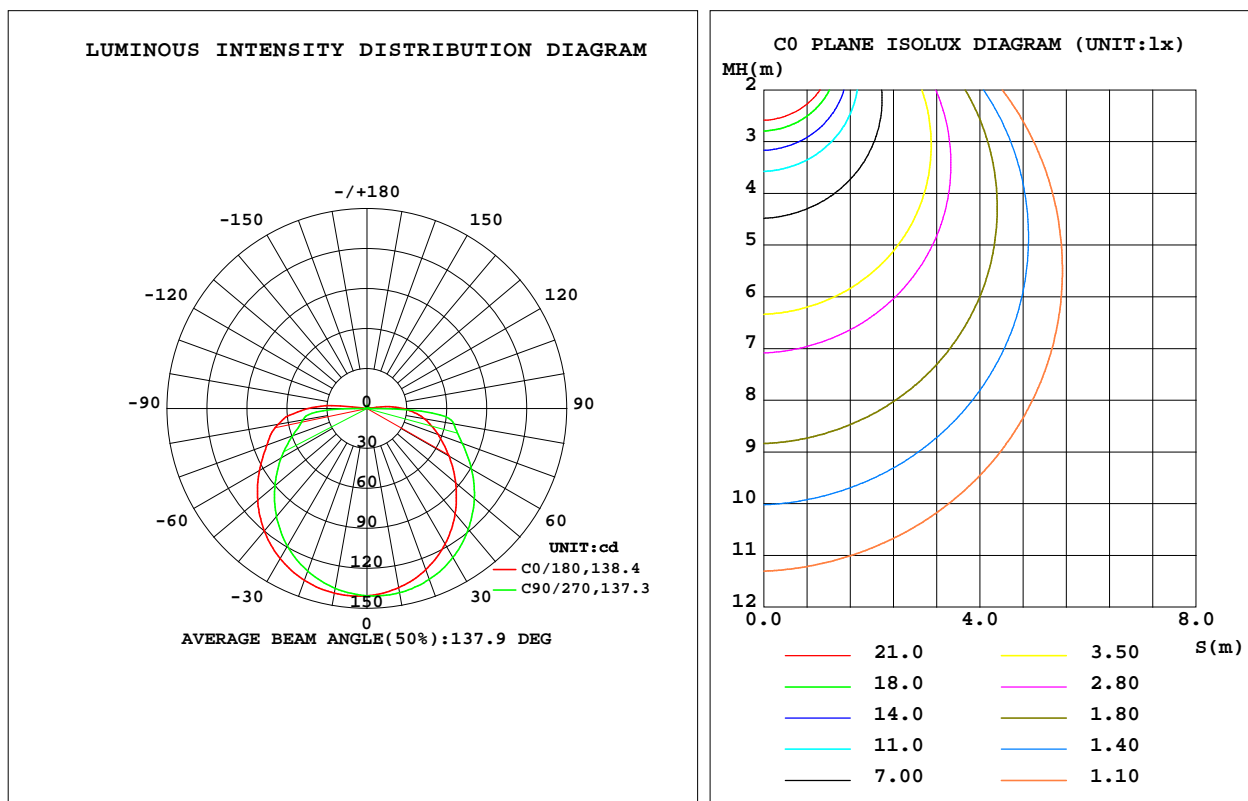


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWN5A012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 116.42 lm/W			
MODEL	FD642408NO	I _{max} (cd)	141.5	S/MH(C0/180)	1.24
NOMINAL POWER(W)	4.8	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	558.83	h UP,DN(C0-180)	2.0,49.1
NOMINAL FLUX(lm)	558.828	CIE CLASS	DIRECT	h UP,DN(C180-360)	1.8,47.1
LAMPS INSIDE	1	h up(%)	3.8	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	h down(%)	96.2	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-01-08

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

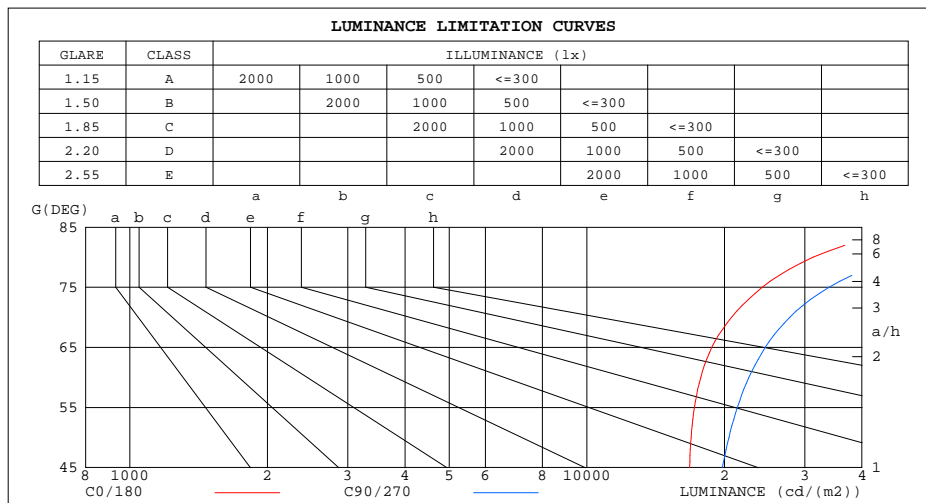
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	136.5	138.5	140.3	141.3	140.7	139.1	137.0	135.8	0- 10	13.33	13.33	2.38,2.38
20	128.8	132.7	136.5	138.7	137.3	134.0	129.9	127.4	10- 20	38.53	51.86	9.28,9.28
30	117.4	123.3	129.1	132.3	130.2	125.2	119.4	115.5	20- 30	59.53	111.4	19.9,19.9
40	103.0	110.5	118.4	122.6	119.9	113.5	105.8	100.7	30- 40	74.05	185.4	33.2,33.2
50	86.98	95.61	105.2	110.3	107.1	99.49	90.21	84.28	40- 50	80.92	266.4	47.7,47.7
60	70.99	79.95	90.50	96.52	93.17	84.59	74.39	68.23	50- 60	80.51	346.9	62.1,62.1
70	56.70	64.99	76.04	82.69	79.88	70.12	59.25	53.69	60- 70	74.28	421.1	75.4,75.4
80	43.49	53.45	66.07	74.49	67.45	60.24	48.76	42.80	70- 80	65.90	487.0	87.2,87.2
90	27.40	31.36	8.220	45.60	44.29	37.01	9.440	25.17	80- 90	50.66	537.7	96.2,96.2
100	2.786	1.636	1.683	1.516	0.7749	0.8550	1.056	1.182	90-100	13.52	551.2	98.6,98.6
110	1.645	1.456	1.156	1.260	0.9153	0.8949	1.169	1.193	100-110	1.344	552.6	98.9,98.9
120	1.603	1.463	1.249	1.096	1.096	1.055	1.270	1.362	110-120	1.214	553.8	99.1,99.1
130	1.737	1.611	1.402	1.269	1.316	1.268	1.376	1.471	120-130	1.214	555.0	99.3,99.3
140	1.877	1.757	1.570	1.483	1.523	1.476	1.476	1.496	130-140	1.169	556.2	99.5,99.5
150	2.037	1.837	1.687	1.730	1.670	1.716	1.630	1.536	140-150	1.038	557.2	99.7,99.7
160	2.117	1.904	1.897	1.957	1.864	1.944	1.964	1.710	150-160	0.8389	558.0	99.9,99.9
170	2.225	2.111	2.221	2.164	1.952	2.124	2.258	2.110	160-170	0.5752	558.6	100,100
180	2.124	2.451	2.465	2.478	2.131	2.458	2.478	2.465	170-180	0.2124	558.8	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2021-01-08

g Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.950m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWNSA012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(180)	C0/180	C90/270
85	51427	79022
80	31304	47559
75	24205	33899
70	20724	27789
65	18769	24575
60	17748	22625
55	17199	21349
50	16914	20458
45	16797	19792

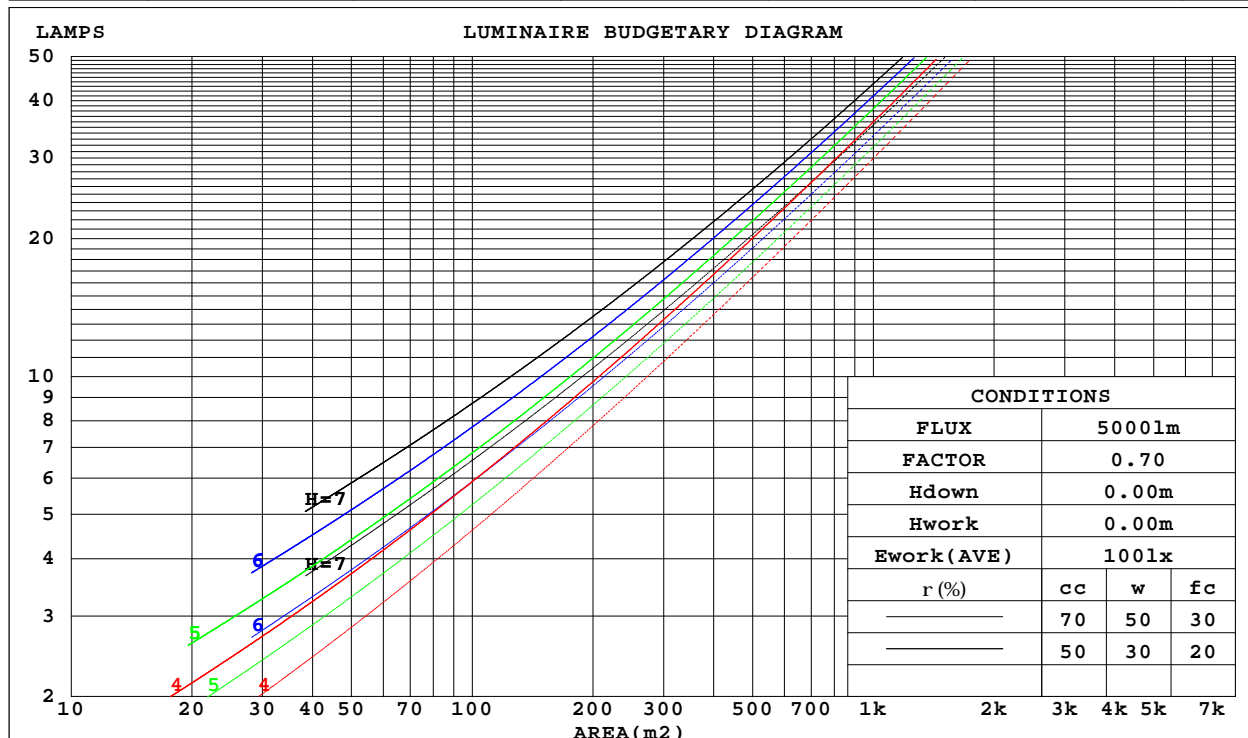
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-01-08

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWN5A012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:

rcc	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-01-08

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWN5A012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio Wall Exitance Coefficients(WEC)															
0.0																
1.0	.413	.235	.074	.405	.231	.073	.389	.223	.071	.374	.216	.069	.361	.209	.067	
2.0	.354	.194	.060	.347	.191	.059	.332	.185	.057	.319	.179	.056	.307	.174	.055	
3.0	.312	.166	.050	.306	.164	.049	.293	.159	.048	.281	.154	.047	.270	.150	.046	
4.0	.280	.145	.043	.274	.143	.042	.262	.139	.042	.252	.135	.041	.242	.131	.040	
5.0	.253	.129	.037	.248	.127	.037	.238	.124	.036	.228	.120	.036	.219	.117	.035	
6.0	.231	.116	.033	.226	.114	.033	.217	.111	.032	.209	.109	.032	.201	.106	.031	
7.0	.213	.105	.030	.208	.104	.030	.200	.101	.029	.193	.099	.029	.185	.096	.028	
8.0	.197	.096	.027	.193	.095	.027	.186	.093	.026	.179	.091	.026	.172	.088	.026	
9.0	.183	.089	.025	.180	.088	.025	.173	.086	.024	.167	.084	.024	.161	.082	.024	
10.0	.171	.082	.023	.168	.081	.023	.162	.079	.022	.156	.078	.022	.151	.076	.022	

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.219	.219	.219	.187	.187	.187	.128	.128	.128	.073	.073	.073	.023	.023	.023	
1.0	.217	.184	.155	.185	.158	.134	.127	.109	.092	.073	.063	.054	.023	.020	.017	
2.0	.210	.161	.120	.180	.138	.103	.123	.096	.072	.071	.056	.042	.023	.018	.014	
3.0	.202	.144	.098	.173	.124	.085	.119	.086	.059	.069	.050	.035	.022	.016	.011	
4.0	.194	.131	.083	.166	.113	.072	.114	.079	.051	.066	.046	.030	.021	.015	.010	
5.0	.186	.121	.073	.160	.105	.064	.110	.073	.045	.064	.043	.027	.021	.014	.009	
6.0	.178	.113	.066	.153	.098	.058	.105	.068	.041	.061	.040	.024	.020	.013	.008	
7.0	.170	.106	.061	.147	.092	.053	.101	.065	.038	.059	.038	.022	.019	.012	.007	
8.0	.163	.100	.057	.141	.087	.050	.097	.061	.035	.057	.036	.021	.018	.012	.007	
9.0	.157	.095	.054	.135	.083	.047	.094	.058	.033	.055	.034	.020	.018	.011	.007	
10.0	.151	.091	.052	.130	.079	.045	.090	.056	.032	.053	.033	.019	.017	.011	.006	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2021-01-08

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.950m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm											
NAME: FD642408NO					TYPE:			WEIGHT:			
SPEC.:FD642408NO-8NWNSA012BC0100					DIM.: 1000*8*1.5mm			SERIAL No.:			
MFR.: COLORS					SUR.:1000*8mm			Shielding Angle:			
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	24.3	25.9	24.6	26.2	26.5	25.2	26.8	25.5	27.1	27.4	
	3H	26.5	28.0	26.8	28.3	28.6	27.7	29.2	28.1	29.5	29.9
	4H	27.7	29.1	28.1	29.4	29.8	29.1	30.6	29.5	30.9	31.2
	6H	29.0	30.3	29.4	30.7	31.1	30.7	32.1	31.1	32.5	32.8
	8H	29.7	31.0	30.1	31.3	31.7	31.7	33.0	32.1	33.4	33.7
	12H	30.4	31.7	30.8	32.1	32.5	32.7	33.9	33.1	34.3	34.7
4H	2H	25.2	26.7	25.6	27.0	27.4	25.9	27.3	26.3	27.7	28.0
	3H	27.6	28.9	28.1	29.3	29.7	28.6	29.9	29.0	30.3	30.7
	4H	29.0	30.2	29.5	30.6	31.0	30.2	31.4	30.6	31.8	32.2
	6H	30.5	31.6	31.0	32.0	32.5	32.0	33.1	32.5	33.5	34.0
	8H	31.3	32.3	31.8	32.7	33.2	33.1	34.1	33.6	34.5	35.0
	12H	32.2	33.1	32.6	33.6	34.1	34.2	35.2	34.7	35.6	36.1
8H	4H	29.7	30.8	30.2	31.2	31.7	30.7	31.7	31.2	32.2	32.6
	6H	31.5	32.4	32.0	32.9	33.4	32.8	33.7	33.3	34.2	34.7
	8H	32.5	33.3	33.0	33.8	34.3	34.1	34.8	34.6	35.3	35.9
	12H	33.6	34.3	34.1	34.8	35.4	35.4	36.1	35.9	36.6	37.2
12H	4H	29.9	30.9	30.4	31.4	31.8	30.8	31.7	31.3	32.2	32.7
	6H	31.9	32.6	32.4	33.1	33.7	33.0	33.8	33.6	34.3	34.8
	8H	33.0	33.7	33.5	34.2	34.7	34.4	35.1	34.9	35.6	36.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.2					
2.0H	+ 0.2 / - 0.4					+ 0.2 / - 0.3					

CIE Pub.117, 558.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.0)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-01-08

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWNSA012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:

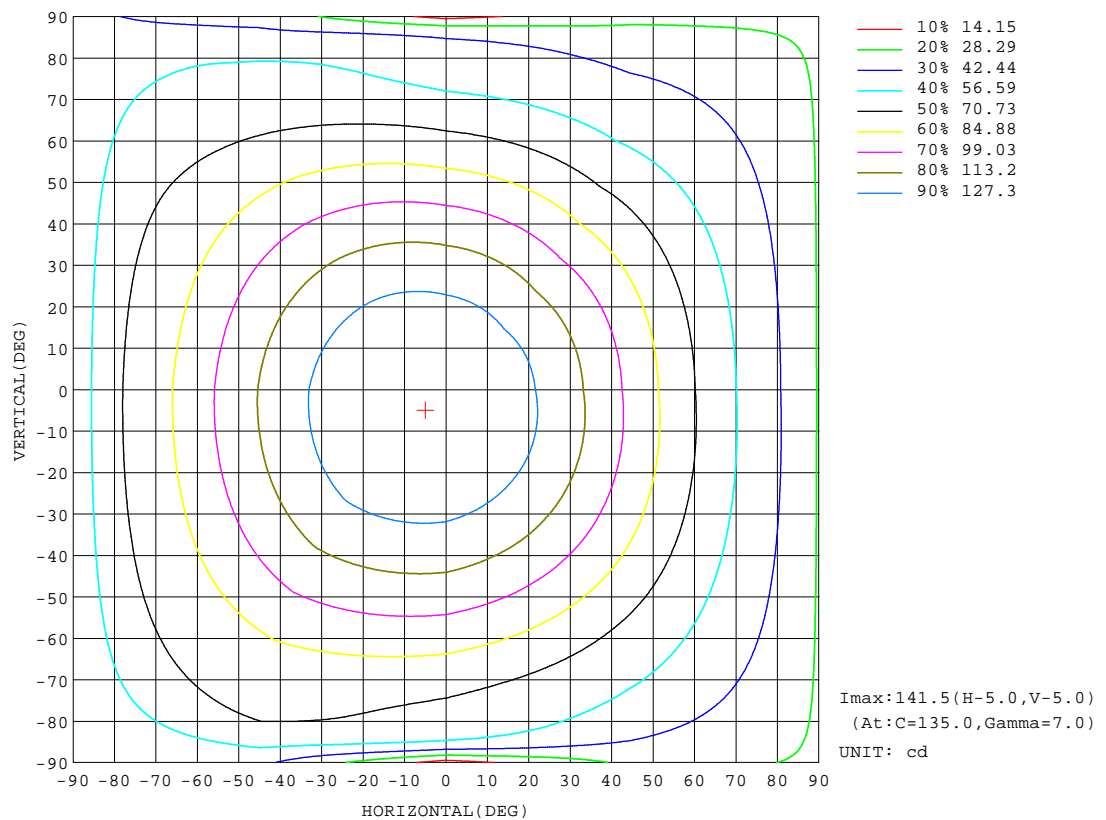
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	51	39	31	50	38	31	49	38	31	24
0.80	60	48	39	59	47	39	57	46	39	31
1.00	68	56	47	67	55	47	64	56	46	38
1.25	75	63	54	73	62	54	70	60	53	44
1.50	80	68	60	78	67	59	75	65	58	49
2.00	87	77	69	85	75	68	81	73	66	56
2.50	92	82	74	89	80	73	85	77	71	61
3.00	96	87	79	93	85	78	88	81	76	65
4.00	100	93	86	97	90	85	92	87	82	71
5.00	103	96	91	100	94	89	95	90	86	74
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-01-08

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWNSA012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:



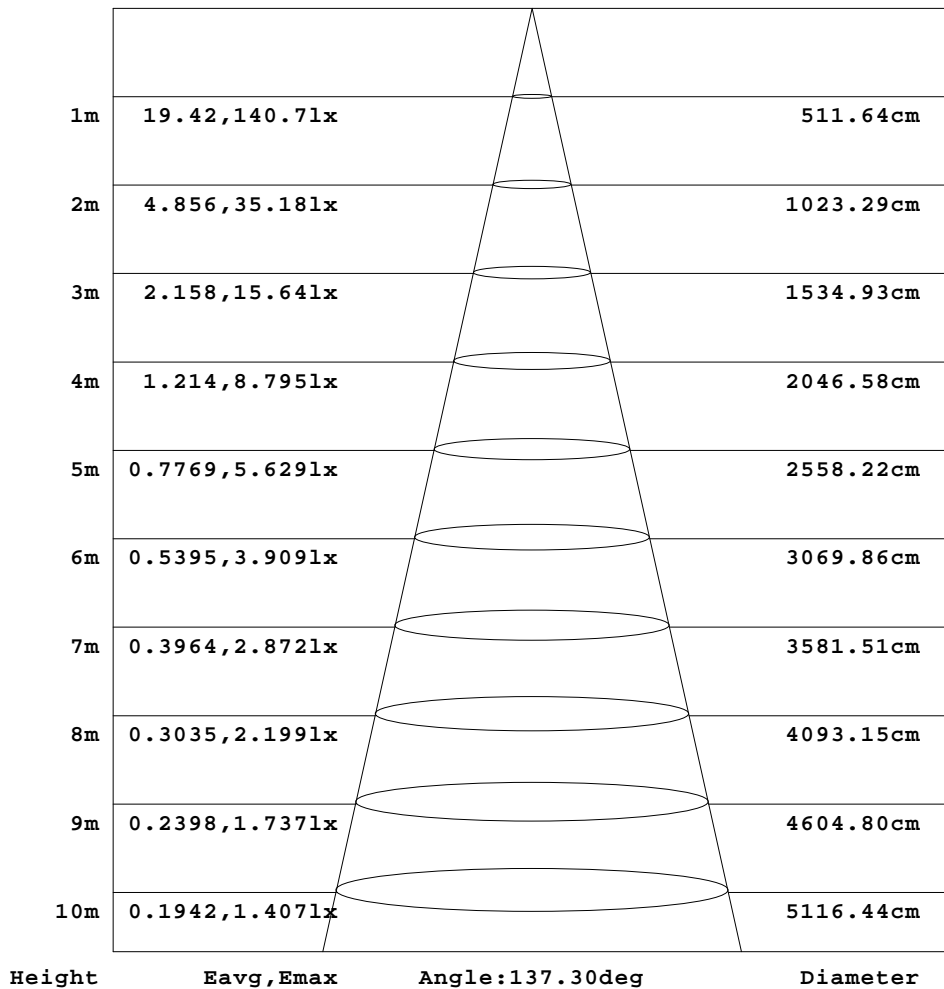
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-01-08

deg Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWNSA012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:

Flux out:414.1 lm



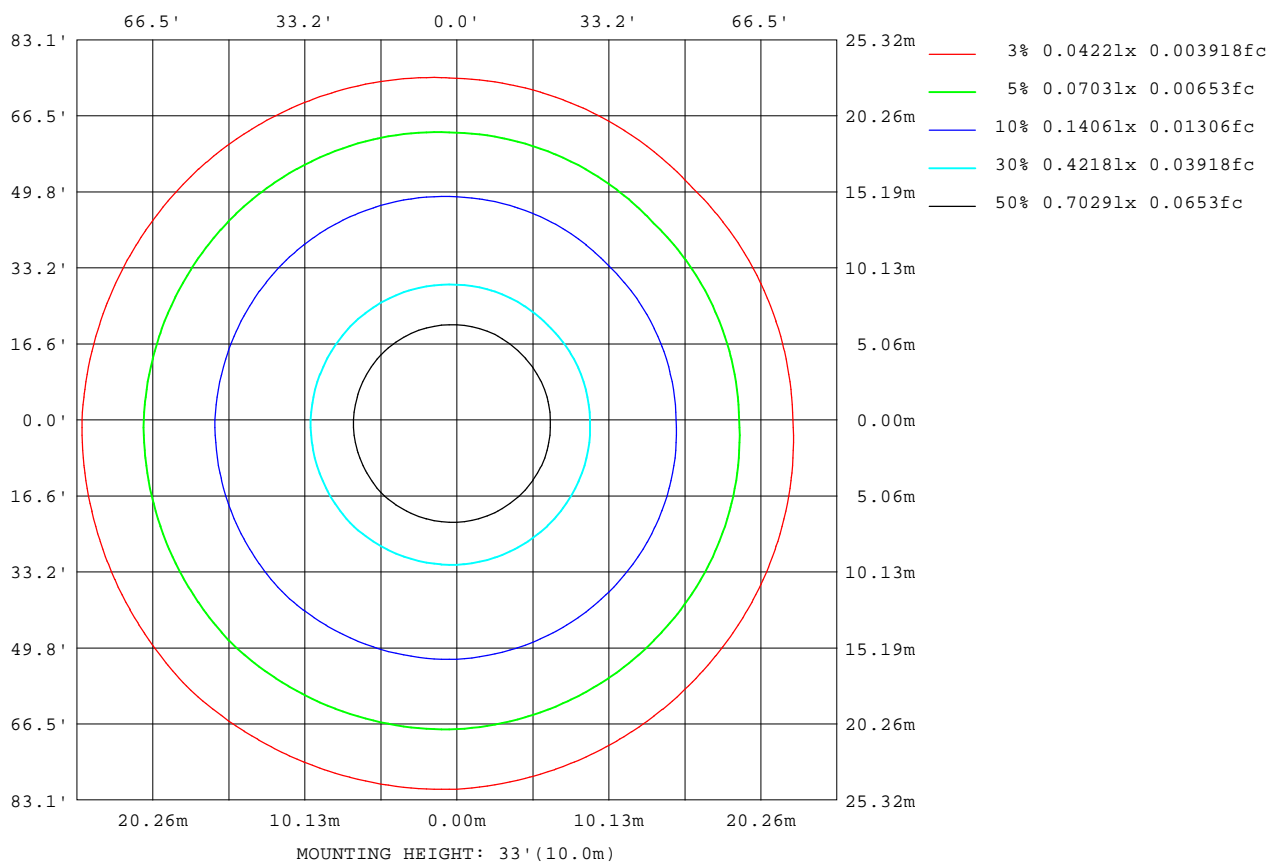
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-01-08

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

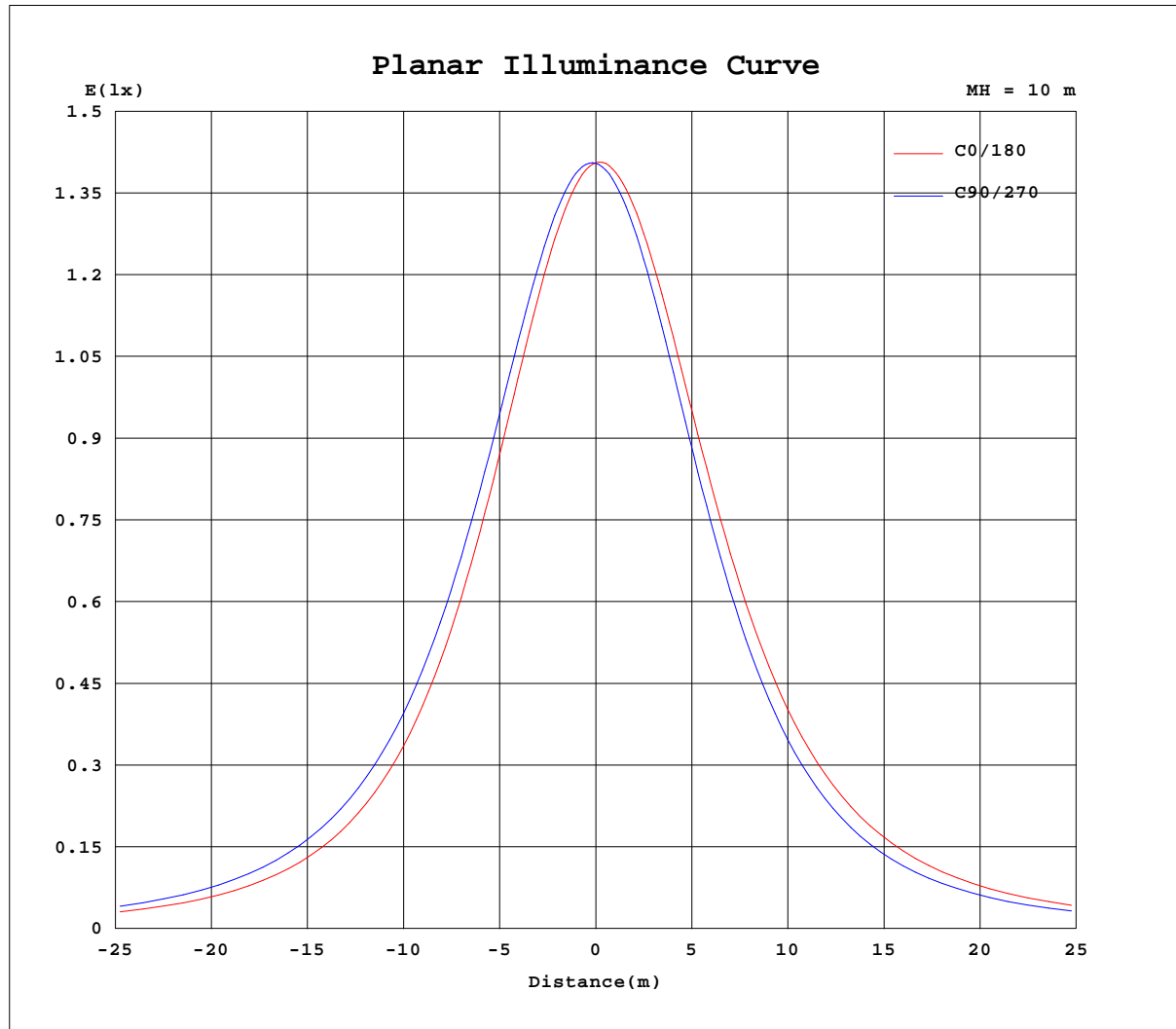
Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWNSA012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2021-01-08

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.950m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JYH
Test Date: 2021-01-08

deg Range: 0 - 180DEG
deg Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.950m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.2000A P:4.800W PF:1.000 Freq:0Hz Lamp Flux:558.828x1 lm		
NAME: FD642408NO	TYPE:	WEIGHT:
SPEC.:FD642408NO-8NWN5A012BC0100	DIM.: 1000*8*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*8mm	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	45	90	135	180	225	270	315										
0	141	141	140	140	141	141	140	140										
5	139	140	141	141	141	140	139	139										
10	137	139	140	141	141	139	137	136										
15	133	136	139	140	139	137	134	132										
20	129	133	136	139	137	134	130	127										
25	124	128	133	136	134	130	125	122										
30	117	123	129	132	130	125	119	116										
35	111	117	124	128	125	120	113	108										
40	103	111	118	123	120	113	106	101										
45	95.0	103	112	117	114	107	98.1	92.5										
50	87.0	95.6	105	110	107	99.5	90.2	84.3										
55	78.9	87.8	98.0	104	100	92.1	82.3	76.2										
60	71.0	79.9	90.5	96.5	93.2	84.6	74.4	68.2										
65	63.5	72.2	83.1	89.4	86.2	77.1	66.7	60.6										
70	56.7	65.0	76.0	82.7	79.9	70.1	59.3	53.7										
75	50.1	59.3	70.2	77.5	74.6	64.8	53.1	48.1										
80	43.5	53.4	66.1	74.5	67.4	60.2	48.8	42.8										
85	35.9	45.5	55.1	66.4	58.3	52.6	41.6	35.8										
90	27.4	31.4	42.2	45.6	44.3	37.0	29.4	25.2										
95	17.1	13.2	1.68	13.3	26.6	8.61	0.83	8.81										
100	2.79	1.64	1.68	1.52	0.77	0.86	1.06	1.18										
105	1.65	1.57	1.56	1.43	0.85	0.86	1.11	1.15										
110	1.64	1.46	1.16	1.26	0.92	0.89	1.17	1.19										
115	1.64	1.42	1.16	1.02	1.00	0.96	1.22	1.26										
120	1.60	1.46	1.25	1.10	1.10	1.05	1.27	1.36										
125	1.69	1.55	1.35	1.18	1.20	1.17	1.32	1.39										
130	1.74	1.61	1.40	1.27	1.32	1.27	1.38	1.47										
135	1.82	1.70	1.49	1.37	1.42	1.36	1.43	1.48										
140	1.88	1.76	1.57	1.48	1.52	1.48	1.48	1.50										
145	1.94	1.80	1.62	1.60	1.61	1.61	1.52	1.50										
150	2.04	1.84	1.69	1.73	1.67	1.72	1.63	1.54										
155	2.04	1.85	1.78	1.84	1.77	1.85	1.78	1.57										
160	2.12	1.90	1.90	1.96	1.86	1.94	1.96	1.71										
165	2.22	1.97	2.06	2.05	1.95	2.05	2.11	1.90										
170	2.22	2.11	2.22	2.16	1.95	2.12	2.26	2.11										
175	2.12	2.29	2.34	2.35	1.96	2.26	2.40	2.31										
180	2.12	2.45	2.46	2.48	2.13	2.46	2.48	2.46										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2021-01-08

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.950m [K=1.0000]
Remarks: