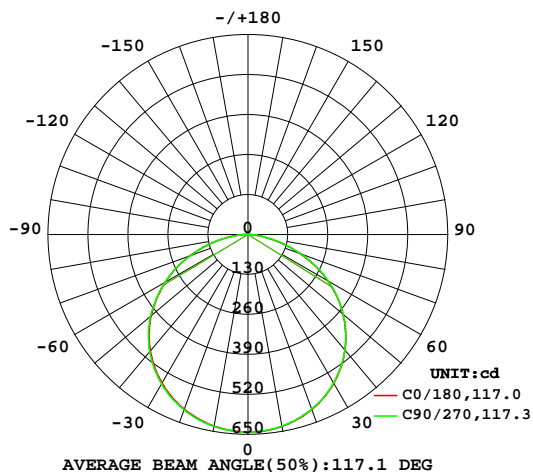


## LUMINAIRE PHOTOMETRIC TEST REPORT

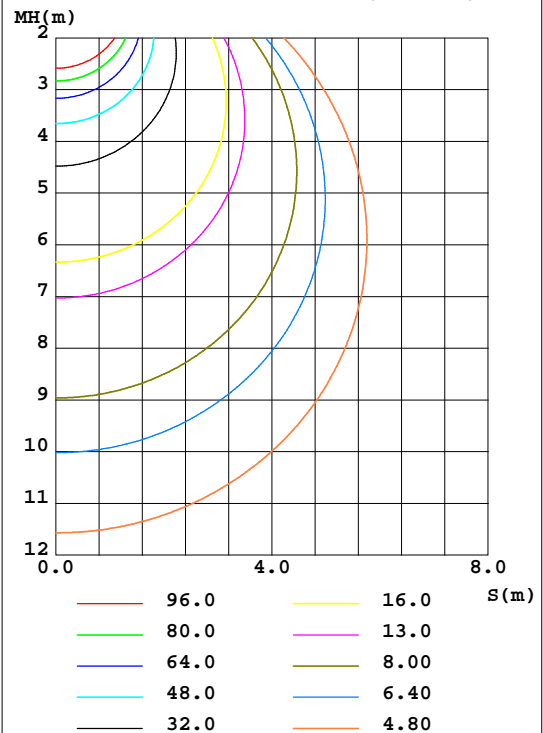
Test:U:24.00V I:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 110.63 lm/W			
MODEL	D81682410NO	I <sub>max</sub> (cd)	643.1	S/MH(C0/180)	1.29
NOMINAL POWER(W)	16.2	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1958.1	h UP,DN(C0-180)	0.8,48.6
NOMINAL FLUX(lm)	1958.14	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.7,49.8
LAMPS INSIDE	1	h up(%)	1.5	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	h down(%)	98.5	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:JYH  
 Test Date:2020-03-31

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:

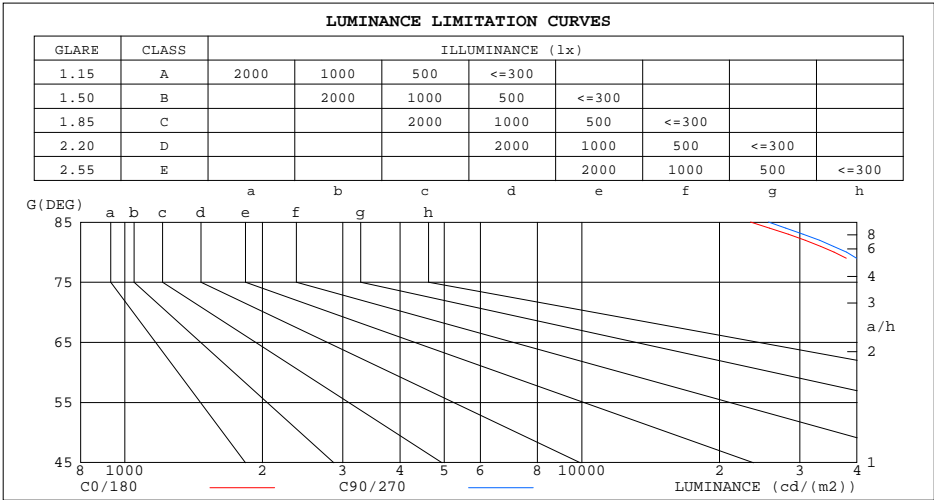
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	633.8	634.3	633.2	634.4	632.8	634.1	634.3	634.4	0~ 10	60.94	60.94	3.11,3.11
20	605.8	606.3	604.7	606.6	604.8	606.3	607.1	606.3	10~ 20	175.7	236.7	12.1,12.1
30	558.6	558.9	557.2	560.7	558.7	560.6	561.7	559.3	20~ 30	269.8	506.5	25.9,25.9
40	490.9	491.5	490.7	495.9	494.0	496.4	497.2	492.7	30~ 40	330.9	837.3	42.8,42.8
50	403.7	402.8	404.5	412.0	410.9	414.2	414.8	406.5	40~ 50	349.7	1187	60.6,60.6
60	298.7	296.6	300.9	310.3	310.7	315.3	311.8	303.1	50~ 60	320.6	1508	77,77
70	178.4	177.4	181.8	196.6	199.0	202.7	198.1	184.6	60~ 70	246.2	1754	89.6,89.6
80	61.92	61.35	65.96	81.49	84.86	87.70	82.53	69.87	70~ 80	138.0	1892	96.6,96.6
90	3.656	4.918	2.261	8.793	8.102	9.781	0.3489	5.741	80~ 90	35.98	1928	98.5,98.5
100	2.168	2.348	2.043	2.211	1.323	1.616	1.224	1.755	90~100	2.684	1931	98.6,98.6
110	3.718	3.733	3.567	3.174	2.802	2.517	2.789	2.994	100~110	2.575	1933	98.7,98.7
120	5.305	5.346	5.223	4.455	4.163	3.898	4.055	4.254	110~120	3.848	1937	98.9,98.9
130	6.718	6.601	6.476	5.646	5.444	5.190	5.065	5.121	120~130	4.647	1942	99.2,99.2
140	7.812	7.428	7.247	6.768	6.494	6.463	5.818	5.778	130~140	4.852	1946	99.4,99.4
150	8.649	7.956	7.761	7.823	7.181	7.659	6.823	6.399	140~150	4.467	1951	99.6,99.6
160	9.565	8.456	8.770	8.770	8.076	8.648	8.397	7.439	150~160	3.693	1955	99.8,99.8
170	9.741	9.553	10.01	9.613	8.783	9.590	9.821	9.364	160~170	2.550	1957	100,100
180	9.532	10.89	10.92	11.00	9.565	10.87	10.97	10.97	170~180	0.9430	1958	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:2020-03-31

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:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	23409	25599
80	35658	37987
75	45543	46878
70	52174	53145
65	56882	57343
60	59735	60183
55	61618	61877
50	62805	62931
45	63605	63639

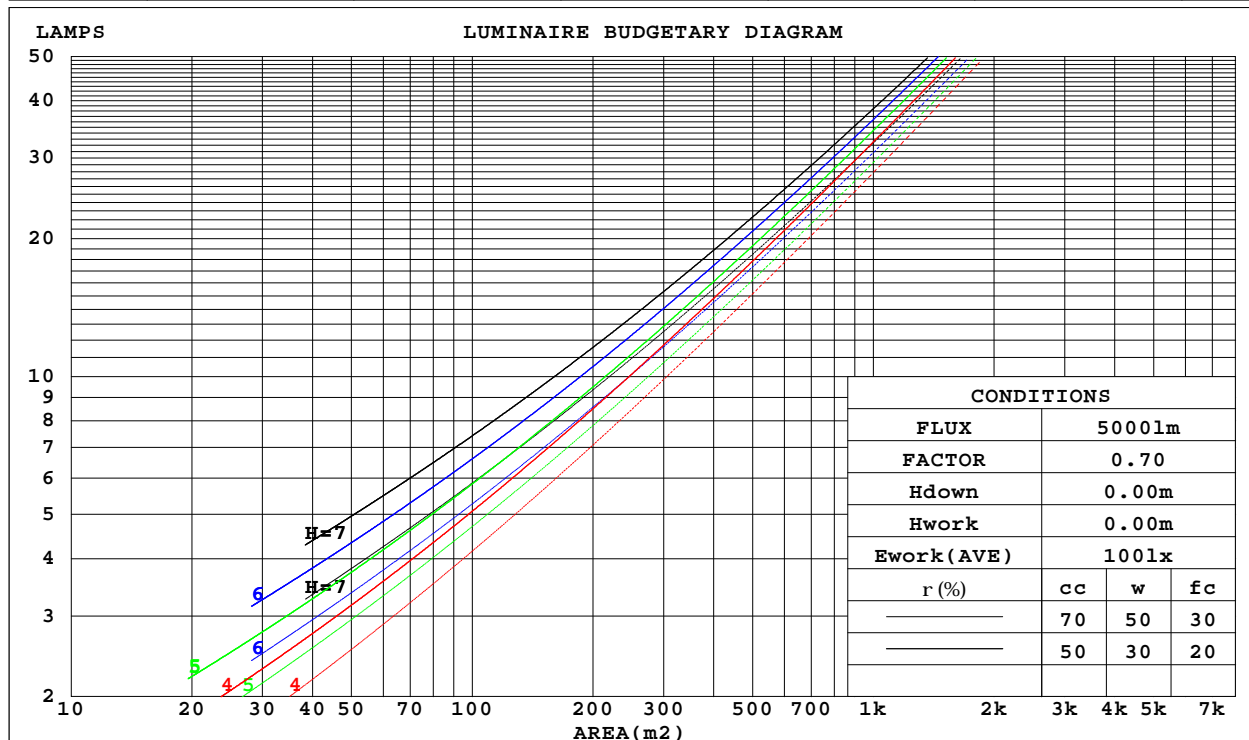
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2020-03-31

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:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

r <sub>cc</sub>	80%			70%			50%			30%			10%			0
r <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r <sub>fc</sub>	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:2020-03-31

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:

## WEC AND CCEC

Test:U:24.00V I:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	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	.312	.177	.056	.304	.174	.055	.290	.166	.053	.277	.160	.051	.265	.154	.050	
2.0	.294	.161	.049	.287	.158	.049	.274	.153	.047	.263	.147	.046	.252	.143	.045	
3.0	.272	.145	.043	.266	.142	.043	.255	.138	.042	.244	.134	.041	.235	.130	.040	
4.0	.251	.130	.038	.246	.128	.038	.236	.125	.037	.226	.122	.037	.218	.118	.036	
5.0	.232	.118	.034	.227	.117	.034	.218	.114	.033	.210	.111	.033	.202	.108	.032	
6.0	.215	.108	.031	.211	.106	.031	.203	.104	.030	.195	.102	.030	.188	.099	.029	
7.0	.200	.099	.028	.196	.098	.028	.189	.096	.028	.182	.094	.027	.176	.092	.027	
8.0	.187	.091	.026	.183	.090	.025	.177	.088	.025	.171	.087	.025	.165	.085	.025	
9.0	.175	.085	.024	.172	.084	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.164	.079	.022	.162	.078	.022	.156	.077	.022	.151	.075	.021	.147	.074	.021	

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	.202	.202	.202	.173	.173	.173	.118	.118	.118	.068	.068	.068	.022	.022	.022	
1.0	.192	.168	.146	.165	.144	.126	.113	.099	.087	.065	.057	.051	.021	.018	.016	
2.0	.184	.144	.110	.158	.124	.095	.108	.086	.066	.062	.050	.039	.020	.016	.013	
3.0	.177	.126	.086	.152	.109	.075	.104	.076	.052	.060	.044	.031	.019	.014	.010	
4.0	.169	.113	.070	.145	.098	.061	.100	.068	.043	.058	.040	.025	.019	.013	.008	
5.0	.162	.103	.059	.139	.089	.051	.096	.062	.036	.055	.036	.022	.018	.012	.007	
6.0	.155	.094	.051	.133	.082	.045	.092	.057	.031	.053	.034	.019	.017	.011	.006	
7.0	.148	.088	.045	.127	.076	.039	.088	.053	.028	.051	.031	.017	.017	.010	.005	
8.0	.142	.082	.041	.122	.071	.036	.084	.050	.025	.049	.029	.015	.016	.010	.005	
9.0	.135	.077	.037	.117	.067	.033	.081	.047	.023	.047	.028	.014	.015	.009	.005	
10.0	.130	.073	.035	.112	.063	.030	.078	.044	.021	.045	.026	.013	.015	.009	.004	

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2020-03-31

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:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm											
NAME: D81682410NO					TYPE:			WEIGHT:			
SPEC.:D81682410NO-9NWDA012WC0100					DIM.: 1000*10*1.5			SERIAL No.:01			
MFR.: COLORS					SUR.:1000*10			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	24.8	26.3	25.1	26.5	26.7	24.8	26.3	25.1	26.5	26.8	
	3H	26.2	27.6	26.5	27.9	28.1	26.3	27.6	26.6	27.9	28.2
	4H	26.7	28.0	27.1	28.3	28.6	26.8	28.1	27.1	28.4	28.7
	6H	27.0	28.3	27.4	28.6	28.9	27.1	28.3	27.5	28.6	29.0
	8H	27.1	28.3	27.4	28.6	28.9	27.2	28.4	27.5	28.7	29.0
	12H	27.1	28.2	27.4	28.6	28.9	27.2	28.3	27.6	28.7	29.0
4H	2H	25.4	26.7	25.7	27.0	27.3	25.4	26.7	25.7	27.0	27.3
	3H	27.0	28.1	27.3	28.4	28.8	27.0	28.2	27.4	28.5	28.8
	4H	27.6	28.6	28.0	29.0	29.4	27.6	28.7	28.0	29.0	29.4
	6H	28.0	28.9	28.4	29.3	29.7	28.0	29.0	28.5	29.4	29.8
	8H	28.1	28.9	28.5	29.3	29.7	28.2	29.0	28.6	29.4	29.8
	12H	28.1	28.9	28.5	29.3	29.7	28.2	29.0	28.6	29.4	29.9
8H	4H	27.8	28.7	28.2	29.1	29.5	27.8	28.7	28.3	29.1	29.5
	6H	28.3	29.0	28.7	29.4	29.9	28.4	29.1	28.8	29.5	30.0
	8H	28.4	29.1	28.9	29.5	30.0	28.5	29.2	29.0	29.6	30.1
	12H	28.5	29.1	29.0	29.5	30.0	28.6	29.2	29.1	29.6	30.1
12H	4H	27.8	28.6	28.2	29.0	29.4	27.8	28.6	28.3	29.0	29.5
	6H	28.3	28.9	28.8	29.4	29.9	28.4	29.0	28.9	29.5	30.0
	8H	28.5	29.0	29.0	29.5	30.0	28.6	29.1	29.1	29.6	30.1
Variations with the observer position at spacings:											
S = 1.0H		+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 1958 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 2.3$ )

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2020-03-31

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:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

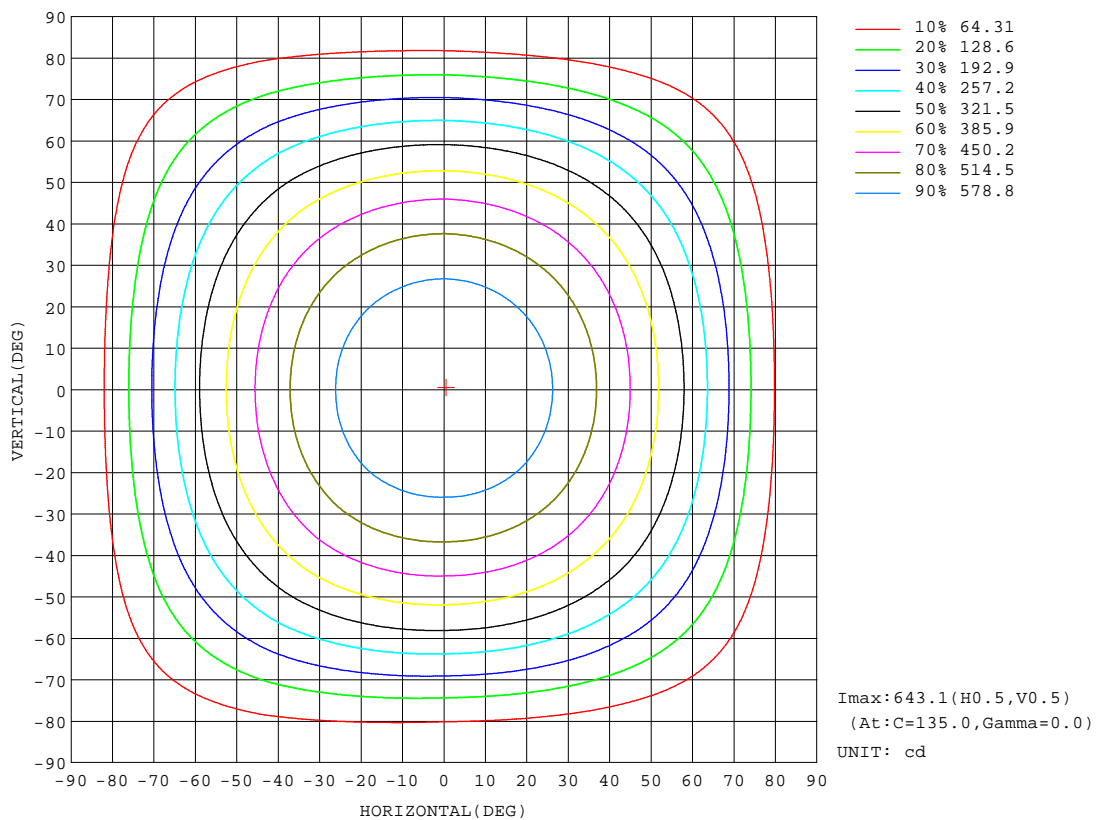
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	45	38	56	44	37	54	44	37	31
0.80	66	55	47	65	54	47	63	53	47	39
1.00	75	64	56	74	63	56	71	64	55	48
1.25	82	71	64	81	71	64	78	69	63	55
1.50	87	77	70	85	76	69	82	74	68	60
2.00	94	85	79	92	84	78	88	82	76	68
2.50	98	90	84	96	89	83	92	86	81	72
3.00	102	95	89	99	93	88	95	90	85	76
4.00	106	100	95	103	98	94	99	94	91	81
5.00	108	103	99	106	101	97	101	97	94	84
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:2020-03-31

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:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: JYH  
 Test Date: 2020-03-31

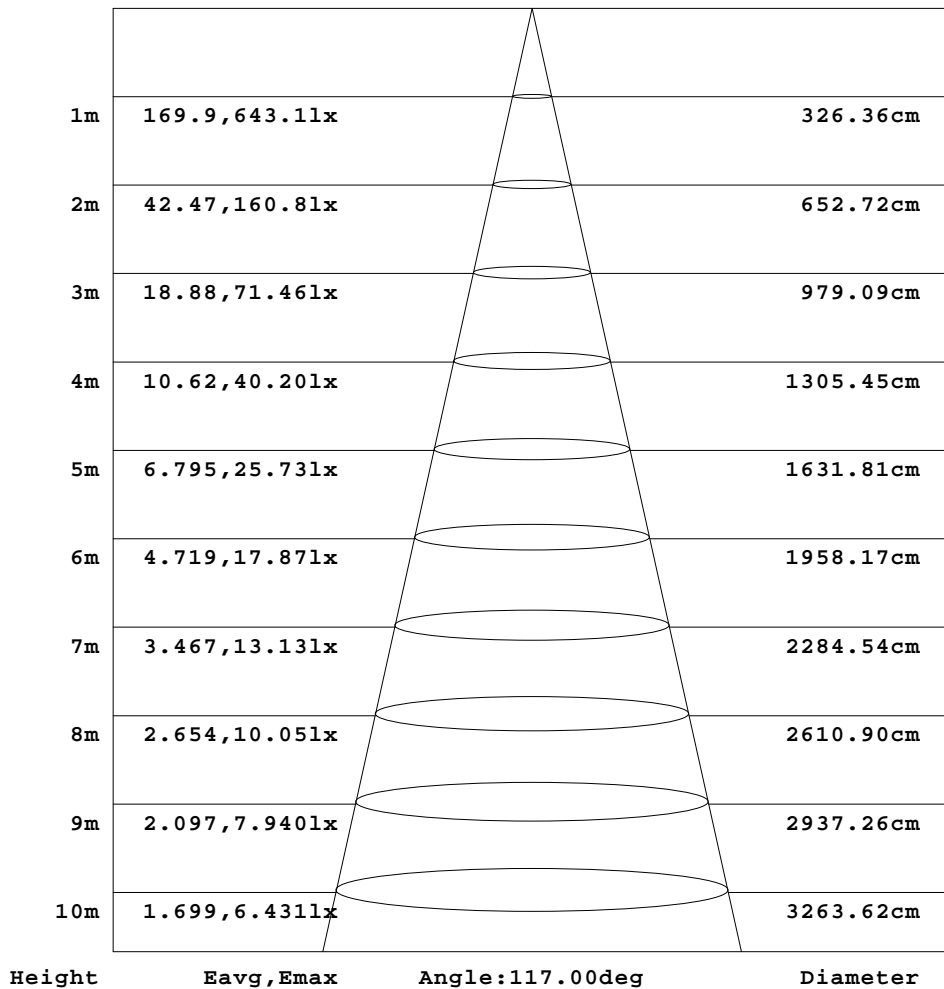
Range: 0 - 180DEG  
 Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity: 65.0%  
 Test Distance: 10.950m [K=1.0000]  
 Remarks:



### AAI Figure

Test:U:24.00V I:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

Flux out:1478 lm



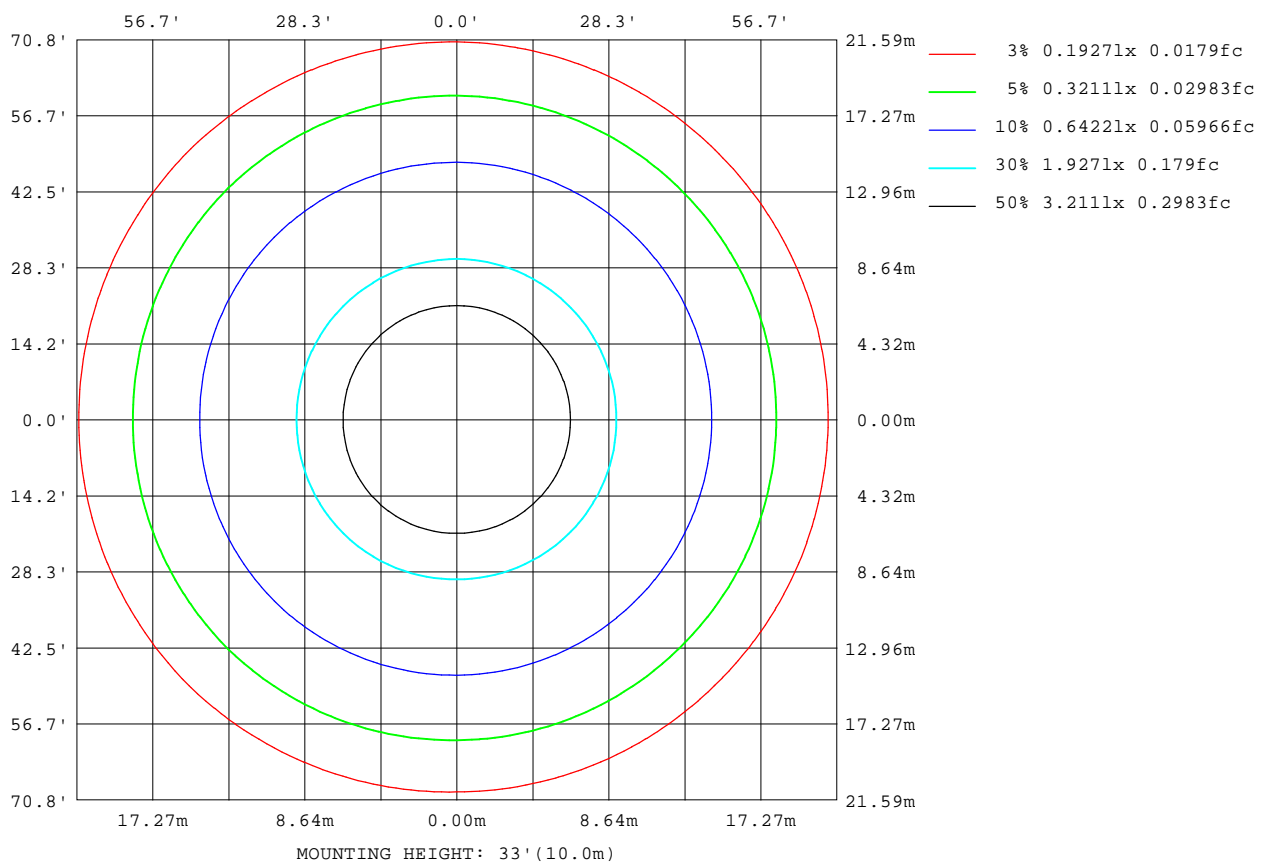
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2020-03-31

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

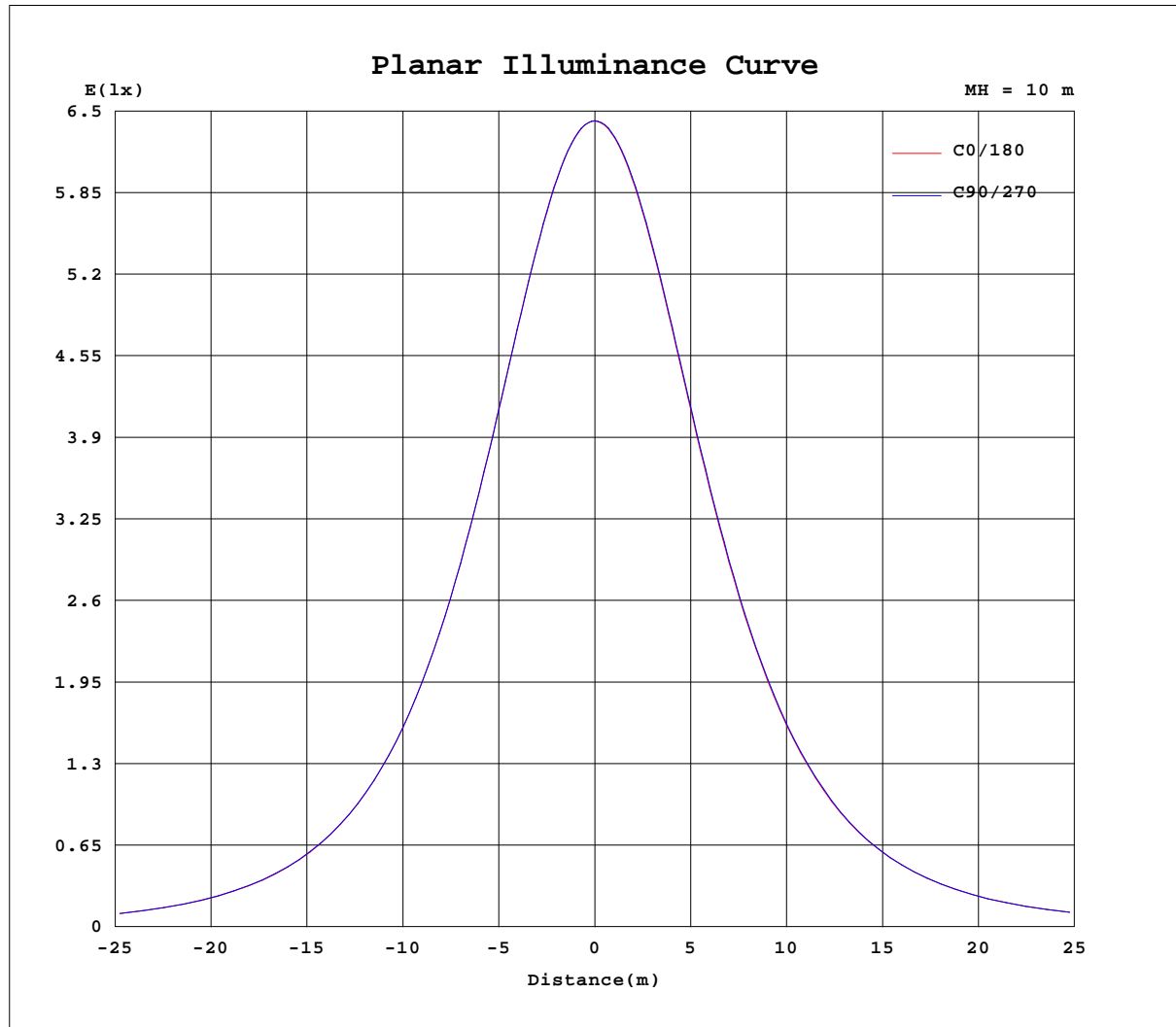
Test:U:24.00V I:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2020-03-31

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:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JYH  
Test Date: 2020-03-31

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:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.7400A P:17.70W PF:1.000 Freq:0Hz Lamp Flux:1958.14x1 lm		
NAME: D81682410NO	TYPE:	WEIGHT:
SPEC.:D81682410NO-9NWDA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

Table--1

UNIT: cd

C(DEC) g (DEC)	0	45	90	135	180	225	270	315										
0	642	643	642	643	642	643	642	643										
5	640	641	640	641	640	641	641	641										
10	634	634	633	634	633	634	634	634										
15	622	623	621	623	621	622	623	623										
20	606	606	605	607	605	606	607	606										
25	585	585	584	586	584	586	587	585										
30	559	559	557	561	559	561	562	559										
35	527	528	526	531	529	531	532	528										
40	491	492	491	496	494	496	497	493										
45	450	450	450	456	455	457	458	452										
50	404	403	405	412	411	414	415	406										
55	353	351	355	362	362	367	364	357										
60	299	297	301	310	311	315	312	303										
65	240	238	242	255	256	261	256	246										
70	178	177	182	197	199	203	198	185										
75	118	117	121	138	141	144	139	125										
80	61.9	61.3	66.0	81.5	84.9	87.7	82.5	69.9										
85	20.4	20.6	22.3	35.2	37.3	39.8	33.9	26.4										
90	3.66	4.92	2.26	8.79	8.10	9.78	0.35	5.74										
95	1.94	2.44	1.96	3.15	1.46	2.10	0.68	1.31										
100	2.17	2.35	2.04	2.21	1.32	1.62	1.22	1.75										
105	2.89	2.95	2.66	2.58	2.03	1.92	2.00	2.25										
110	3.72	3.73	3.57	3.17	2.80	2.52	2.79	2.99										
115	4.53	4.55	4.46	3.83	3.50	3.18	3.45	3.67										
120	5.31	5.35	5.22	4.46	4.16	3.90	4.05	4.25										
125	6.07	6.03	5.83	5.06	4.83	4.56	4.58	4.69										
130	6.72	6.60	6.48	5.65	5.44	5.19	5.06	5.12										
135	7.31	7.06	6.91	6.21	5.99	5.84	5.50	5.53										
140	7.81	7.43	7.25	6.77	6.49	6.46	5.82	5.78										
145	8.25	7.71	7.49	7.31	6.88	7.06	6.21	6.07										
150	8.65	7.96	7.76	7.82	7.18	7.66	6.82	6.40										
155	9.14	8.20	8.21	8.31	7.62	8.18	7.62	6.80										
160	9.56	8.46	8.77	8.77	8.08	8.65	8.40	7.44										
165	9.95	8.85	9.44	9.18	8.55	9.08	9.13	8.31										
170	9.74	9.55	10.0	9.61	8.78	9.59	9.82	9.36										
175	9.38	10.3	10.6	10.2	8.82	10.2	10.4	10.3										
180	9.53	10.9	10.9	11.0	9.57	10.9	11.0	11.0										

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2020-03-31

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: