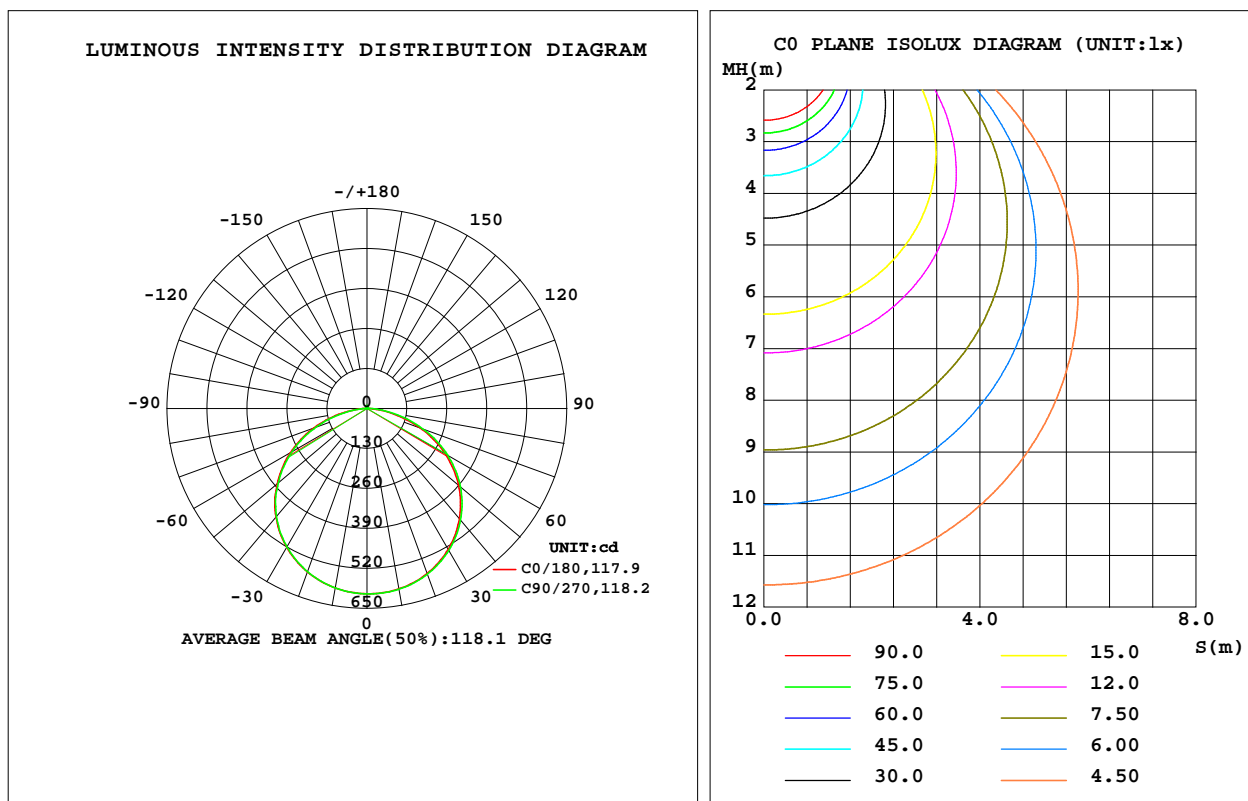


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.00V I:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 121.04 lm/W			
MODEL	D81922410NO	I _{max} (cd)	603.8	S/MH(C0/180)	1.30
NOMINAL POWER(W)	16	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1858.1	h UP,DN(C0-180)	0.9,50.1
NOMINAL FLUX(lm)	1858.15	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.8,48.2
LAMPS INSIDE	1	h up(%)	1.7	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	h down(%)	98.3	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-09

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:

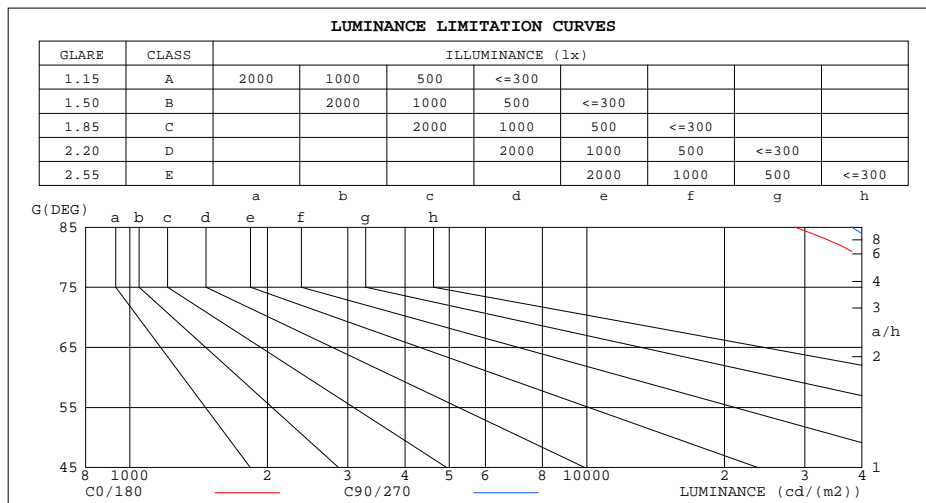
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	595.6	597.7	596.9	596.6	592.7	592.4	592.5	594.6	0- 10	57.18	57.18	3.08,3.08
20	571.4	574.8	573.8	572.5	565.7	564.2	565.2	567.4	10- 20	165.0	222.2	12,12
30	528.6	533.7	532.5	530.6	521.7	518.9	520.1	522.6	20- 30	253.6	475.8	25.6,25.6
40	467.8	474.3	473.6	471.5	460.7	457.0	458.0	460.3	30- 40	311.6	787.4	42.4,42.4
50	389.0	395.3	396.8	393.0	380.9	378.3	376.8	380.4	40- 50	330.3	1118	60.2,60.2
60	293.1	300.1	302.7	300.3	288.2	284.5	282.2	284.4	50- 60	304.5	1422	76.5,76.5
70	181.8	190.8	192.5	193.6	182.8	176.6	175.0	173.9	60- 70	236.3	1658	89.3,89.3
80	69.89	77.85	80.60	82.62	74.21	69.10	66.84	64.55	70- 80	134.4	1793	96.5,96.5
90	3.336	5.663	3.646	7.037	3.285	3.760	1.863	2.835	80- 90	34.46	1827	98.3,98.3
100	2.331	2.427	2.264	2.393	1.640	1.670	1.662	1.769	90-100	2.263	1830	98.5,98.5
110	3.679	3.524	3.165	3.467	3.428	3.141	3.298	3.159	100-110	2.792	1832	98.6,98.6
120	5.281	5.084	4.886	4.972	4.971	4.428	4.510	4.680	110-120	4.089	1837	98.8,98.8
130	6.637	6.313	6.062	6.121	6.313	5.610	5.418	5.676	120-130	4.888	1841	99.1,99.1
140	7.659	7.148	6.986	7.047	7.363	6.764	6.126	6.258	130-140	5.019	1846	99.4,99.4
150	8.269	7.616	7.581	8.003	8.023	7.873	6.889	6.552	140-150	4.554	1851	99.6,99.6
160	8.970	8.049	8.623	8.958	8.717	8.829	8.371	7.292	150-160	3.699	1855	99.8,99.8
170	9.506	9.118	9.932	9.799	8.635	9.630	9.773	9.028	160-170	2.529	1857	100,100
180	9.291	10.75	10.97	10.90	9.278	10.70	10.93	10.91	170-180	0.9286	1858	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:2020-12-09

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:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	28508	37964
80	40246	46417
75	48166	52468
70	53168	56275
65	56655	59125
60	58622	60532
55	59810	61348
50	60517	61739
45	60900	61872

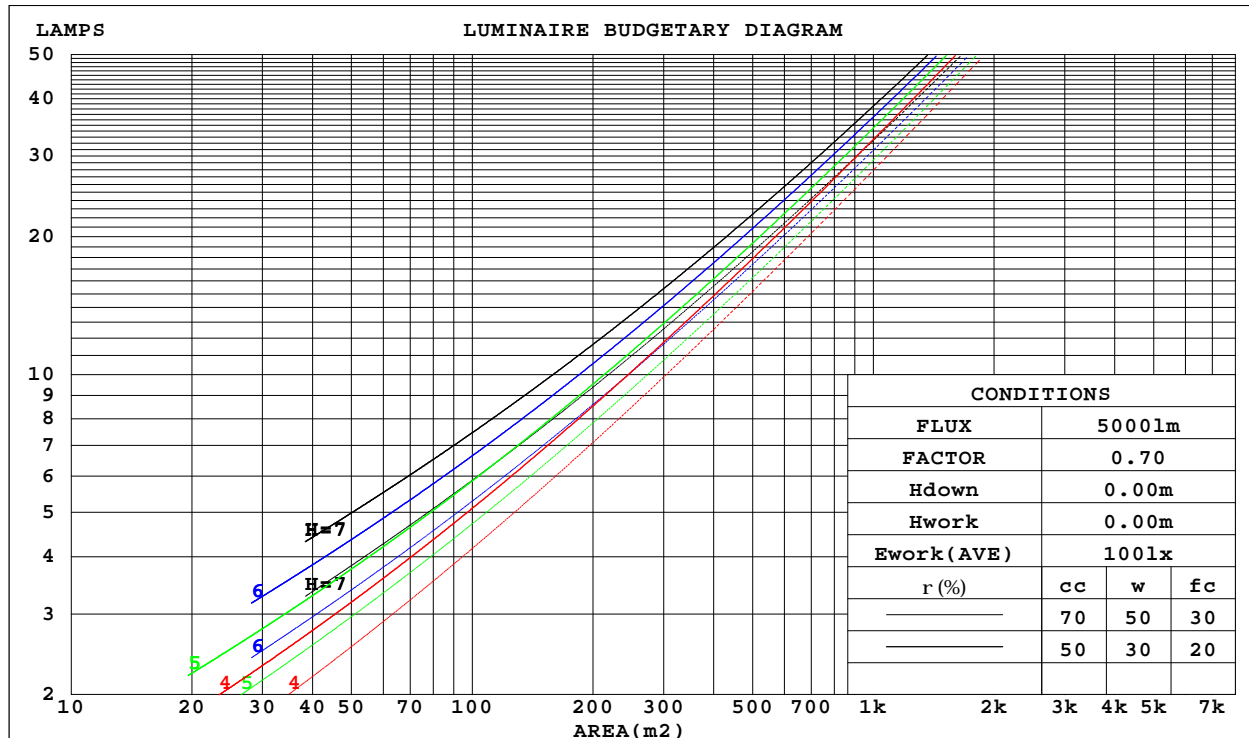
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-09

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:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

r _{cc}	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 Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	.98
1.0	1.03	.99	.95	1.01	.97	.93	.96	.93	.90	.92	.89	.87	.88	.86	.84	.82
2.0	.90	.83	.77	.88	.81	.76	.84	.78	.74	.80	.76	.72	.77	.73	.70	.68
3.0	.79	.70	.64	.77	.69	.63	.74	.67	.62	.71	.65	.60	.68	.63	.59	.57
4.0	.69	.60	.54	.68	.60	.53	.65	.58	.52	.63	.56	.51	.60	.55	.50	.48
5.0	.62	.53	.46	.61	.52	.46	.58	.51	.45	.56	.49	.44	.54	.48	.44	.41
6.0	.56	.46	.40	.54	.46	.40	.52	.45	.39	.51	.44	.39	.49	.43	.38	.36
7.0	.50	.41	.35	.49	.41	.35	.48	.40	.35	.46	.39	.34	.45	.38	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.42	.35	.30	.41	.35	.30	.28
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.27	.38	.32	.27	.25
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.25	.23



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-09

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:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
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	.313	.178	.056	.306	.174	.055	.292	.167	.053	.278	.161	.052	.266	.154	.050	
2.0	.295	.162	.050	.288	.159	.049	.276	.153	.048	.264	.148	.046	.253	.143	.045	
3.0	.273	.145	.043	.267	.143	.043	.256	.139	.042	.245	.134	.041	.236	.131	.040	
4.0	.252	.131	.038	.246	.129	.038	.236	.125	.037	.227	.122	.037	.219	.119	.036	
5.0	.232	.118	.034	.228	.117	.034	.219	.114	.034	.211	.111	.033	.203	.108	.033	
6.0	.215	.108	.031	.211	.107	.031	.203	.104	.030	.196	.102	.030	.189	.099	.030	
7.0	.200	.099	.028	.197	.098	.028	.189	.096	.028	.183	.094	.027	.176	.092	.027	
8.0	.187	.091	.026	.184	.090	.026	.177	.089	.025	.171	.087	.025	.165	.085	.025	
9.0	.175	.085	.024	.172	.084	.024	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.165	.079	.022	.162	.078	.022	.157	.077	.022	.152	.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	.203	.203	.203	.174	.174	.174	.118	.118	.118	.068	.068	.068	.022	.022	.022	
1.0	.193	.169	.147	.165	.145	.126	.113	.100	.087	.065	.058	.051	.021	.019	.016	
2.0	.185	.145	.110	.159	.125	.095	.109	.086	.067	.063	.050	.039	.020	.016	.013	
3.0	.178	.127	.087	.153	.110	.075	.105	.076	.053	.060	.045	.031	.019	.014	.010	
4.0	.170	.114	.071	.146	.098	.062	.101	.069	.043	.058	.040	.026	.019	.013	.008	
5.0	.163	.104	.060	.140	.090	.052	.096	.063	.037	.056	.037	.022	.018	.012	.007	
6.0	.156	.095	.052	.134	.083	.045	.092	.058	.032	.054	.034	.019	.017	.011	.006	
7.0	.149	.088	.046	.128	.077	.040	.089	.054	.028	.051	.032	.017	.017	.010	.006	
8.0	.143	.083	.042	.123	.072	.036	.085	.050	.026	.049	.030	.015	.016	.010	.005	
9.0	.136	.078	.038	.118	.068	.033	.081	.047	.024	.047	.028	.014	.015	.009	.005	
10.0	.131	.074	.035	.113	.064	.031	.078	.045	.022	.046	.027	.013	.015	.009	.004	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-09

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:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm											
NAME: D81922410NO						TYPE:		WEIGHT:			
SPEC.:D81922410NO-9NWDA012WC0100						DIM.: 1000*10*1.5mm		SERIAL No.:			
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	25.0	26.5	25.3	26.8	27.0	25.1	26.6	25.4	26.9	27.1	
	3H	26.6	28.0	26.9	28.2	28.5	26.7	28.1	27.1	28.4	28.7
	4H	27.1	28.5	27.5	28.8	29.1	27.4	28.7	27.7	29.0	29.3
	6H	27.5	28.8	27.9	29.1	29.4	27.8	29.1	28.2	29.4	29.7
	8H	27.6	28.8	28.0	29.1	29.5	27.9	29.2	28.3	29.5	29.8
	12H	27.6	28.8	28.0	29.1	29.5	28.0	29.2	28.4	29.5	29.8
4H	2H	25.7	27.0	26.0	27.3	27.6	25.8	27.1	26.1	27.4	27.7
	3H	27.4	28.6	27.8	28.9	29.2	27.5	28.7	27.9	29.0	29.4
	4H	28.1	29.2	28.5	29.5	29.9	28.3	29.4	28.7	29.7	30.1
	6H	28.6	29.5	29.0	29.9	30.3	28.9	29.8	29.3	30.2	30.6
	8H	28.7	29.6	29.2	30.0	30.4	29.0	29.9	29.5	30.3	30.7
	12H	28.8	29.6	29.2	30.0	30.5	29.1	30.0	29.6	30.4	30.8
8H	4H	28.4	29.3	28.8	29.7	30.1	28.6	29.4	29.0	29.8	30.3
	6H	29.0	29.7	29.5	30.2	30.6	29.3	30.0	29.7	30.4	30.9
	8H	29.2	29.9	29.7	30.3	30.8	29.5	30.2	30.0	30.6	31.1
	12H	29.3	29.9	29.8	30.4	30.9	29.7	30.3	30.2	30.7	31.2
12H	4H	28.4	29.2	28.8	29.6	30.1	28.6	29.4	29.0	29.8	30.2
	6H	29.1	29.7	29.5	30.2	30.7	29.3	30.0	29.8	30.4	30.9
	8H	29.3	29.9	29.8	30.3	30.9	29.6	30.2	30.1	30.6	31.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.4					+ 0.2 / - 0.3					

CIE Pub.117, 1858 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.2)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-09

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:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

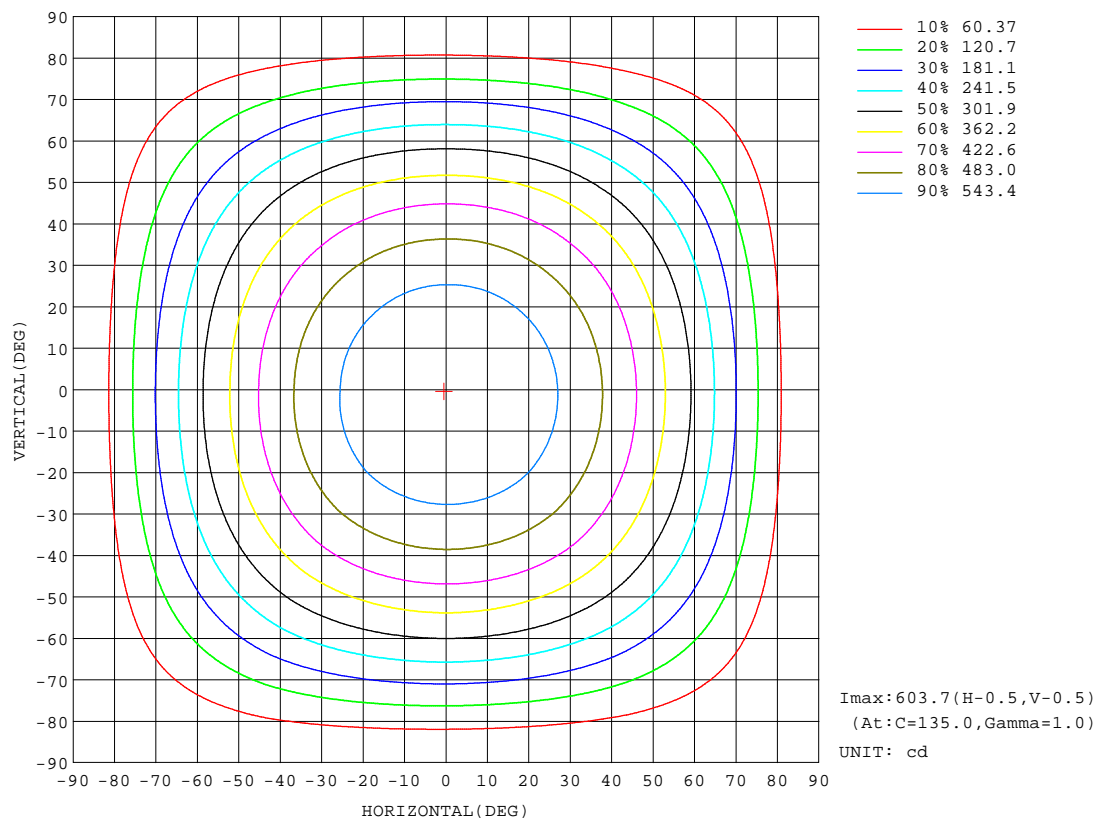
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	44	37	54	44	37	30
0.80	66	54	47	65	54	47	63	53	46	39
1.00	75	63	56	73	63	56	71	64	55	48
1.25	82	71	64	80	70	63	77	69	62	55
1.50	87	77	70	85	76	69	82	74	68	60
2.00	94	85	79	92	84	78	88	81	76	68
2.50	98	90	84	96	89	83	92	86	81	72
3.00	101	94	89	99	93	88	95	90	85	76
4.00	106	100	95	103	98	93	98	94	91	81
5.00	108	103	99	105	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:2020-12-09

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:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



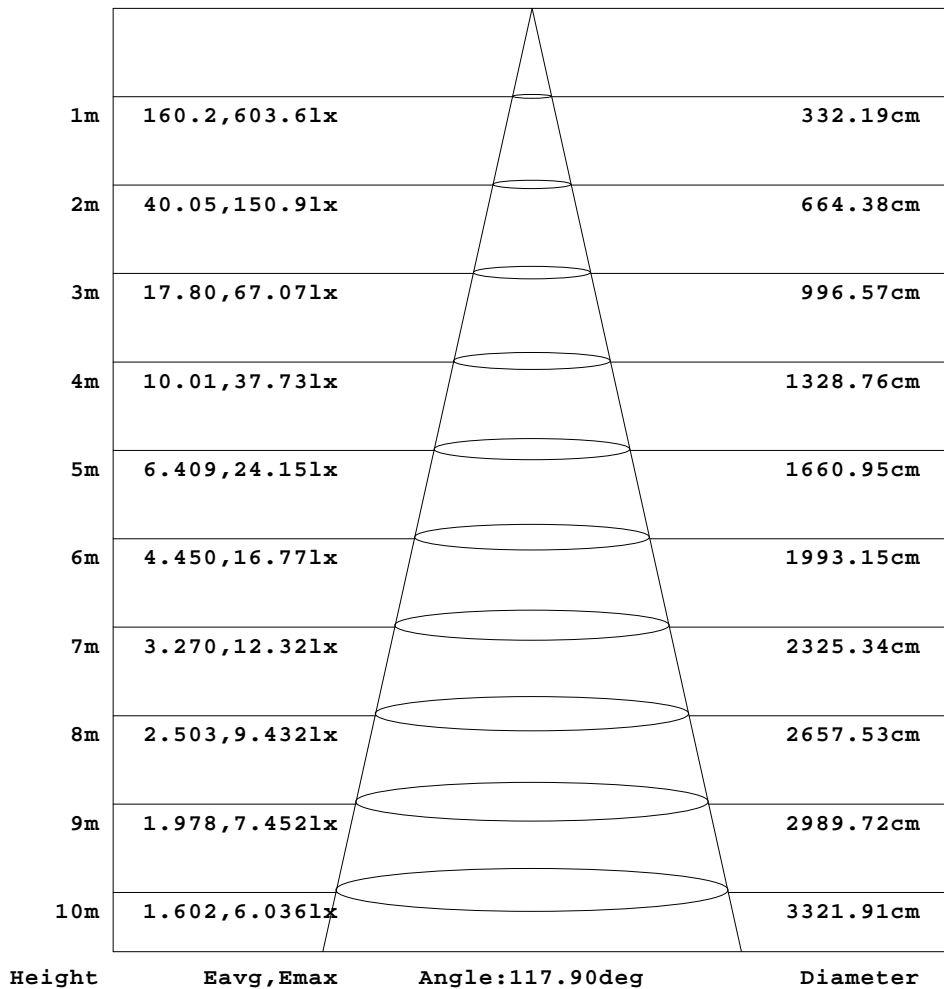
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-09

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:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

Flux out:1394 lm



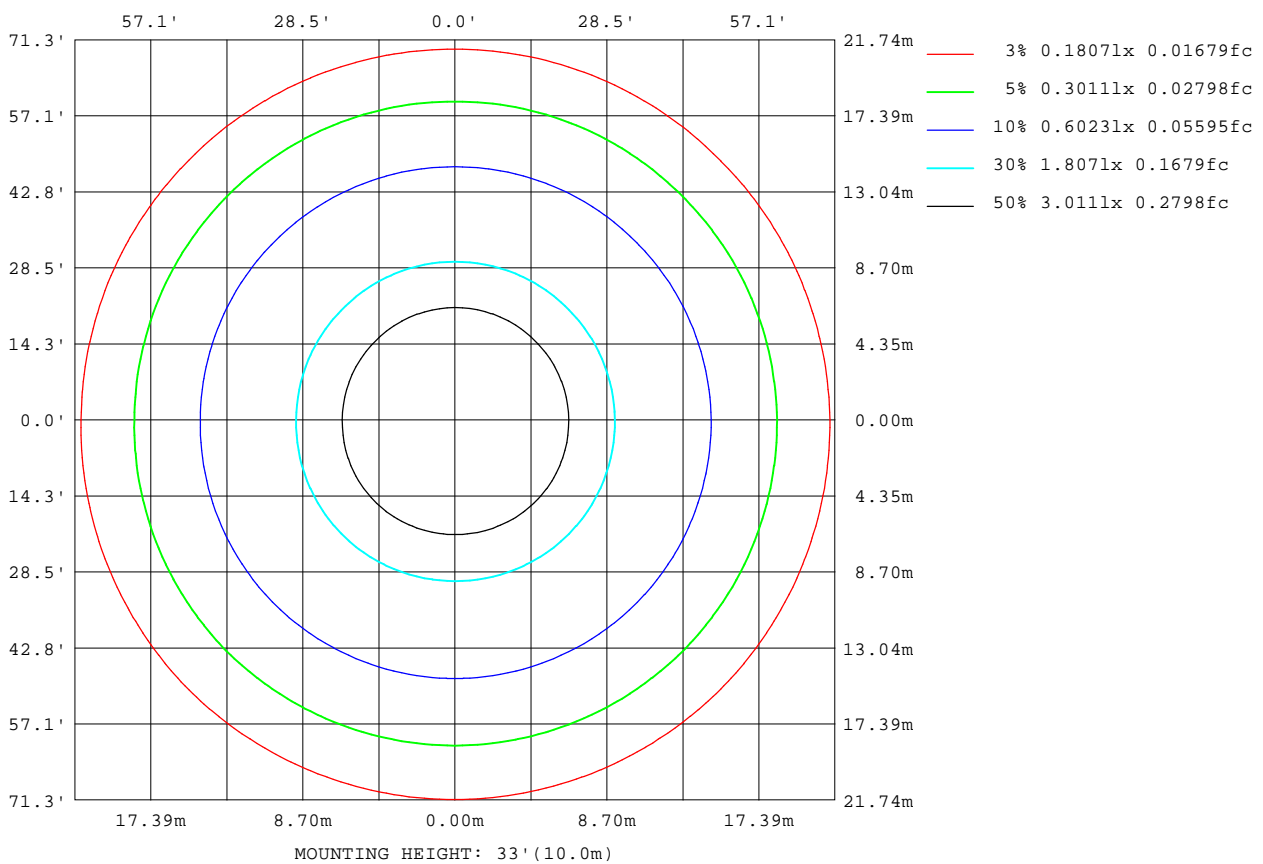
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JYH
Test Date: 2020-12-09

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

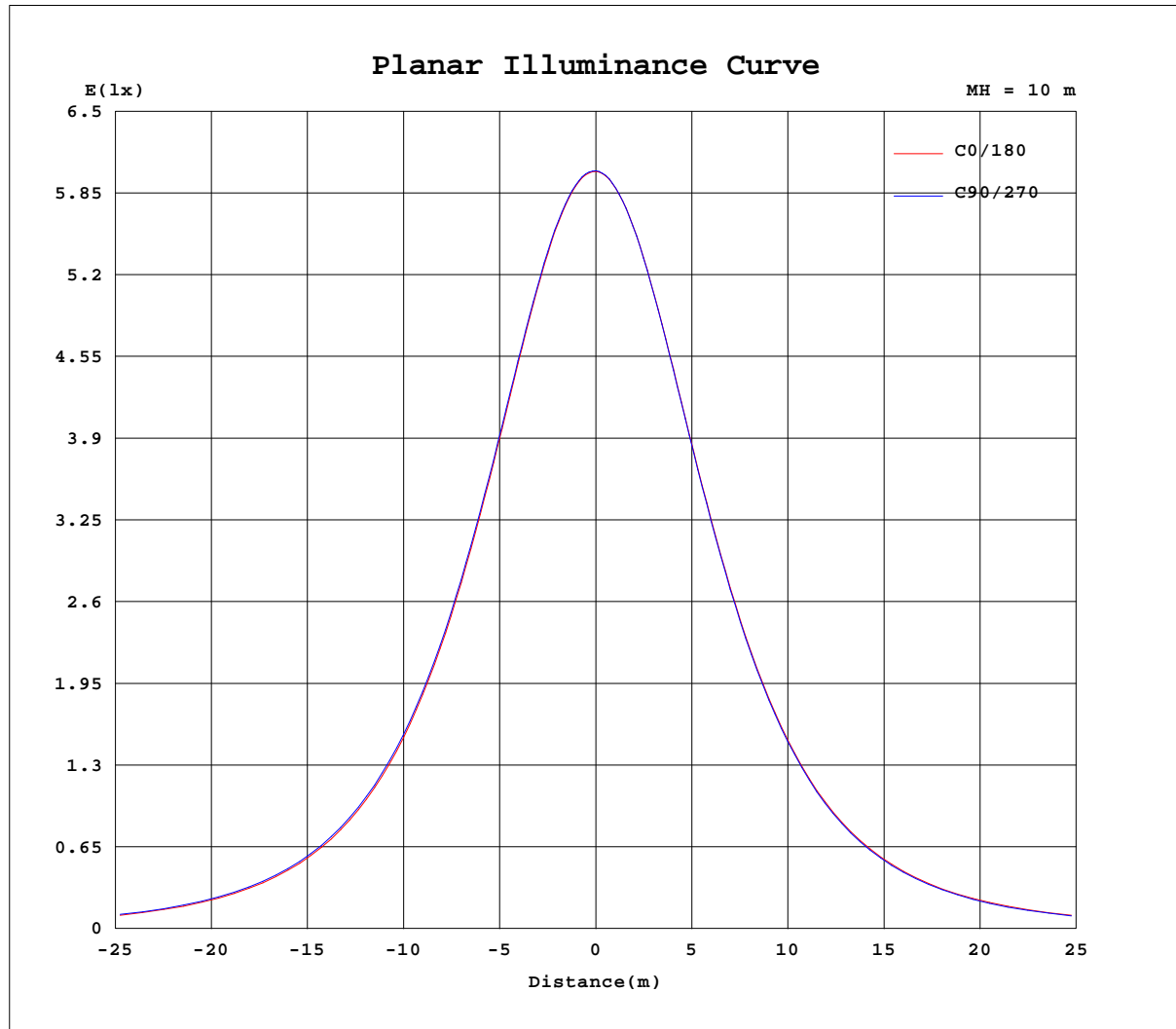
Test:U:24.00V I:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWNDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-09

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: 2020-12-09

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.6397A P:15.35W PF:1.000 Freq:0Hz Lamp Flux:1858.15x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-9NWDA012WC0100	DIM.: 1000*10*1.5mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	45	90	135	180	225	270	315										
0	602	603	603	604	602	603	603	604										
5	601	603	602	602	599	600	600	601										
10	596	598	597	597	593	592	593	595										
15	586	589	588	587	581	580	581	583										
20	571	575	574	573	566	564	565	567										
25	552	556	555	554	546	543	545	547										
30	529	534	533	531	522	519	520	523										
35	501	506	505	504	493	490	491	494										
40	468	474	474	472	461	457	458	460										
45	431	438	438	436	424	420	421	423										
50	389	395	397	393	381	378	377	380										
55	343	349	352	349	336	333	331	334										
60	293	300	303	300	288	285	282	284										
65	239	247	250	248	237	232	230	231										
70	182	191	192	194	183	177	175	174										
75	125	133	136	137	128	122	120	118										
80	69.9	77.9	80.6	82.6	74.2	69.1	66.8	64.5										
85	24.8	31.0	33.1	35.4	28.5	25.9	24.5	22.1										
90	3.34	5.66	3.65	7.04	3.28	3.76	1.86	2.83										
95	2.26	2.54	2.39	2.60	1.29	1.42	0.90	1.30										
100	2.33	2.43	2.26	2.39	1.64	1.67	1.66	1.77										
105	2.89	2.85	2.50	2.82	2.55	2.45	2.59	2.35										
110	3.68	3.52	3.17	3.47	3.43	3.14	3.30	3.16										
115	4.50	4.35	4.07	4.26	4.20	3.81	3.96	3.98										
120	5.28	5.08	4.89	4.97	4.97	4.43	4.51	4.68										
125	6.04	5.74	5.52	5.59	5.68	5.00	4.99	5.23										
130	6.64	6.31	6.06	6.12	6.31	5.61	5.42	5.68										
135	7.20	6.79	6.53	6.59	6.87	6.16	5.81	6.08										
140	7.66	7.15	6.99	7.05	7.36	6.76	6.13	6.26										
145	7.99	7.41	7.32	7.51	7.74	7.32	6.41	6.39										
150	8.27	7.62	7.58	8.00	8.02	7.87	6.89	6.55										
155	8.62	7.82	7.98	8.50	8.39	8.36	7.57	6.81										
160	8.97	8.05	8.62	8.96	8.72	8.83	8.37	7.29										
165	9.40	8.42	9.38	9.37	8.98	9.20	9.07	8.10										
170	9.51	9.12	9.93	9.80	8.64	9.63	9.77	9.03										
175	9.09	9.93	10.5	10.4	8.49	10.1	10.4	10.0										
180	9.29	10.7	11.0	10.9	9.28	10.7	10.9	10.9										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-09

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: