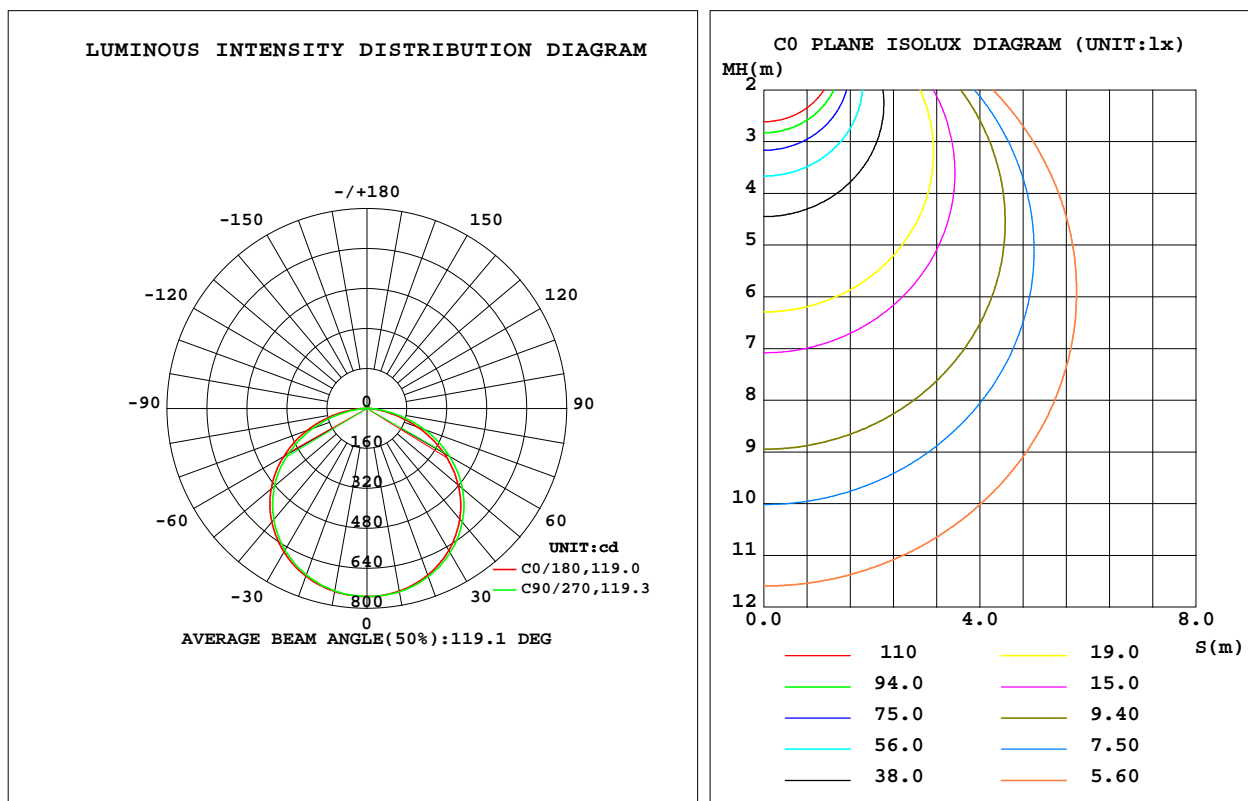


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.00V I:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 154.85 lm/W			
MODEL	D81922410NO	I _{max} (cd)	753.2	S/MH(C0/180)	1.29
NOMINAL POWER(W)	16	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	2350.4	h UP,DN(C0-180)	0.9,49.4
NOMINAL FLUX(lm)	2350.36	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.8,49.0
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:2020-12-03

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:

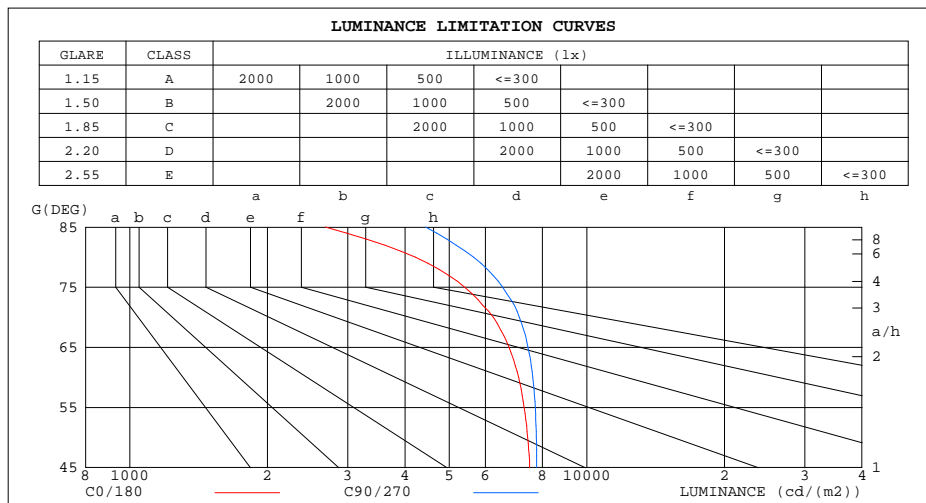
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	741.9	744.5	744.9	746.4	743.8	742.9	741.1	740.4	0- 10	71.41	71.41	3.04,3.04
20	709.8	714.3	716.3	719.1	714.5	711.9	708.9	706.2	10- 20	206.4	277.8	11.8,11.8
30	655.4	662.3	666.1	670.5	664.3	660.0	655.5	650.8	20- 30	317.9	595.6	25.3,25.3
40	578.0	587.3	593.7	600.4	592.9	587.5	580.3	573.0	30- 40	391.9	987.5	42,42
50	477.3	489.2	498.7	508.3	500.3	492.9	483.5	472.2	40- 50	417.3	1405	59.8,59.8
60	354.5	365.6	380.8	392.6	384.2	377.7	362.8	350.2	50- 60	387.2	1792	76.2,76.2
70	213.7	226.1	243.6	259.1	253.1	244.9	227.3	211.3	60- 70	301.0	2093	89.1,89.1
80	73.19	84.27	98.09	117.3	114.4	104.9	88.56	72.28	70- 80	172.2	2265	96.4,96.4
90	4.228	5.841	4.565	14.25	13.01	9.434	1.842	2.455	80- 90	45.63	2311	98.3,98.3
100	3.217	3.229	2.865	3.001	1.945	1.897	2.057	2.491	90-100	3.464	2314	98.5,98.5
110	5.042	4.735	4.082	4.290	4.028	3.807	4.252	4.152	100-110	3.588	2318	98.6,98.6
120	6.979	6.580	6.094	6.240	6.031	5.427	5.849	6.147	110-120	5.212	2323	98.8,98.8
130	8.602	7.902	7.498	7.773	7.769	6.957	7.101	7.440	120-130	6.207	2329	99.1,99.1
140	9.710	8.778	8.528	8.958	9.120	8.500	8.049	8.195	130-140	6.348	2336	99.4,99.4
150	10.35	9.245	9.371	10.09	9.940	9.897	8.806	8.582	140-150	5.730	2341	99.6,99.6
160	11.13	9.766	10.83	11.24	10.74	11.10	10.58	9.295	150-160	4.633	2346	99.8,99.8
170	11.46	11.38	12.38	12.22	10.76	12.03	12.21	11.31	160-170	3.152	2349	100,100
180	11.31	13.34	13.55	13.69	11.27	13.33	13.55	13.71	170-180	1.153	2350	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:2020-12-03

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:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2681	4439
80	4215	5649
75	5406	6542
70	6249	7122
65	6758	7436
60	7090	7616
55	7293	7714
50	7425	7758
45	7501	7763

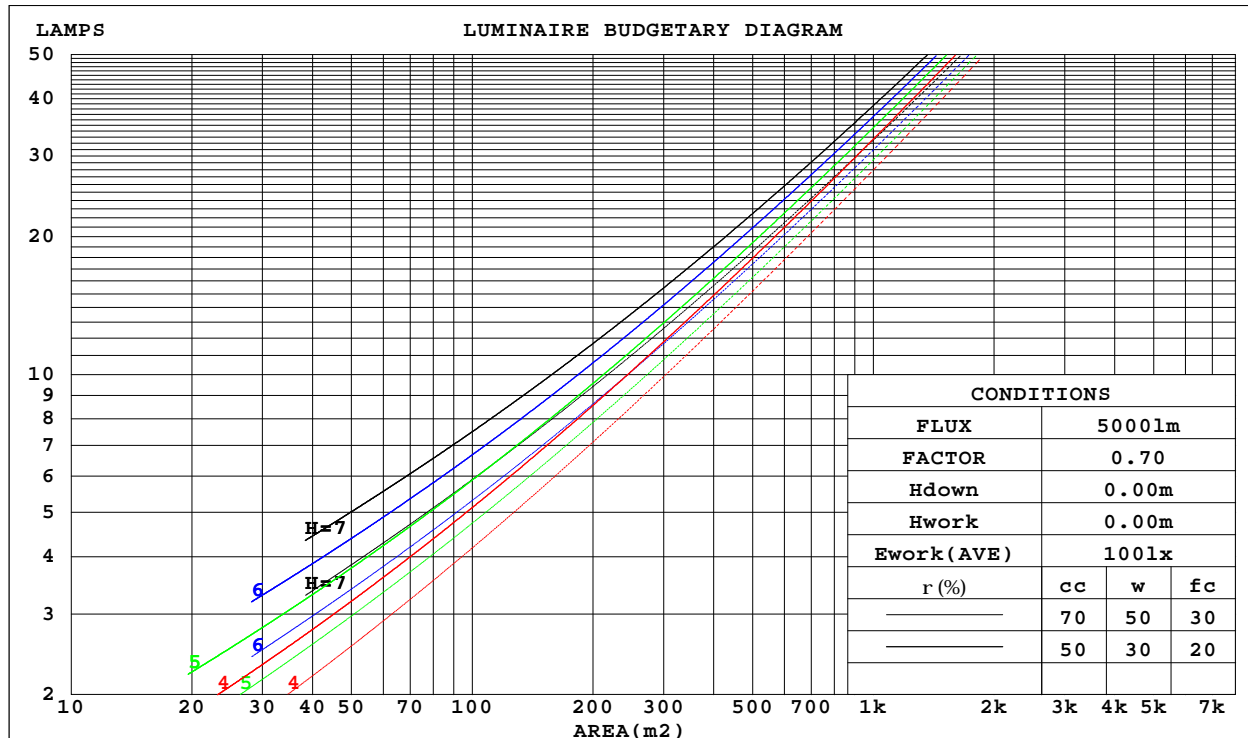
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2020-12-03

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:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	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	1.00	1.00	1.00	.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	.78	.70	.63	.77	.69	.63	.73	.67	.61	.70	.65	.60	.68	.63	.59	.56
4.0	.69	.60	.53	.68	.59	.53	.65	.58	.52	.62	.56	.51	.60	.55	.50	.48
5.0	.62	.52	.46	.60	.52	.45	.58	.50	.45	.56	.49	.44	.54	.48	.43	.41
6.0	.55	.46	.40	.54	.46	.39	.52	.45	.39	.50	.44	.38	.49	.43	.38	.36
7.0	.50	.41	.35	.49	.41	.35	.47	.40	.34	.46	.39	.34	.44	.38	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.43	.36	.31	.42	.35	.30	.41	.35	.30	.28
9.0	.42	.33	.28	.41	.33	.28	.40	.33	.27	.39	.32	.27	.37	.31	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.24	.23



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-03

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:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	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	.315	.179	.057	.308	.175	.056	.293	.168	.054	.280	.162	.052	.268	.155	.050	
2.0	.296	.162	.050	.290	.160	.049	.277	.154	.048	.265	.149	.047	.255	.144	.045	
3.0	.274	.146	.044	.268	.143	.043	.257	.139	.042	.246	.135	.041	.237	.131	.041	
4.0	.252	.131	.039	.247	.129	.038	.237	.126	.038	.228	.122	.037	.219	.119	.036	
5.0	.233	.119	.034	.228	.117	.034	.219	.114	.034	.211	.111	.033	.203	.109	.033	
6.0	.216	.108	.031	.212	.107	.031	.204	.104	.030	.196	.102	.030	.189	.100	.030	
7.0	.201	.099	.028	.197	.098	.028	.190	.096	.028	.183	.094	.027	.177	.092	.027	
8.0	.187	.092	.026	.184	.091	.026	.178	.089	.025	.172	.087	.025	.166	.085	.025	
9.0	.175	.085	.024	.172	.084	.024	.167	.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	.119	.119	.119	.068	.068	.068	.022	.022	.022	
1.0	.194	.169	.147	.166	.145	.126	.113	.100	.087	.065	.058	.051	.021	.019	.016	
2.0	.186	.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	.061	.045	.031	.019	.014	.010	
4.0	.171	.114	.071	.147	.099	.062	.101	.069	.043	.058	.040	.026	.019	.013	.008	
5.0	.163	.104	.060	.140	.090	.052	.097	.063	.037	.056	.037	.022	.018	.012	.007	
6.0	.156	.096	.052	.134	.083	.045	.093	.058	.032	.054	.034	.019	.017	.011	.006	
7.0	.149	.089	.046	.129	.077	.040	.089	.054	.029	.052	.032	.017	.017	.010	.006	
8.0	.143	.083	.042	.123	.072	.036	.085	.051	.026	.050	.030	.015	.016	.010	.005	
9.0	.137	.078	.038	.118	.068	.033	.082	.048	.024	.048	.028	.014	.015	.009	.005	
10.0	.131	.074	.036	.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:2020-12-03

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:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm											
NAME: D81922410NO					TYPE:			WEIGHT:			
SPEC.:D81922410NO-8NWDA012WC0100					DIM.: 1000*10*1.6mm			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	16.8	18.3	17.1	18.5	18.8	17.0	18.5	17.3	18.8	19.0	
	3H	18.2	19.6	18.5	19.9	20.2	18.6	20.0	18.9	20.3	20.6
	4H	18.7	20.1	19.1	20.4	20.7	19.2	20.6	19.6	20.9	21.2
	6H	19.0	20.3	19.4	20.6	20.9	19.7	20.9	20.0	21.2	21.5
	8H	19.1	20.3	19.5	20.6	20.9	19.8	21.0	20.1	21.3	21.6
	12H	19.1	20.3	19.5	20.6	20.9	19.8	21.0	20.2	21.3	21.7
4H	2H	17.4	18.7	17.7	19.0	19.3	17.6	18.9	17.9	19.2	19.5
	3H	19.0	20.2	19.4	20.5	20.9	19.4	20.5	19.8	20.9	21.2
	4H	19.7	20.7	20.1	21.1	21.5	20.1	21.2	20.5	21.5	21.9
	6H	20.1	21.0	20.5	21.4	21.8	20.6	21.6	21.1	22.0	22.4
	8H	20.1	21.0	20.6	21.4	21.9	20.8	21.7	21.2	22.1	22.5
	12H	20.2	21.0	20.6	21.4	21.8	20.9	21.7	21.4	22.1	22.6
8H	4H	19.9	20.8	20.4	21.2	21.6	20.3	21.2	20.8	21.6	22.0
	6H	20.4	21.2	20.9	21.6	22.1	21.0	21.7	21.4	22.1	22.6
	8H	20.6	21.2	21.1	21.7	22.2	21.2	21.9	21.7	22.3	22.8
	12H	20.7	21.2	21.2	21.7	22.2	21.4	21.9	21.9	22.4	22.9
12H	4H	19.9	20.7	20.4	21.2	21.6	20.3	21.1	20.8	21.5	22.0
	6H	20.5	21.1	21.0	21.6	22.1	21.0	21.7	21.5	22.1	22.6
	8H	20.7	21.2	21.2	21.7	22.2	21.3	21.8	21.8	22.3	22.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2				+ 0.1 / - 0.2						
1.5H	+ 0.2 / - 0.4				+ 0.2 / - 0.3						
2.0H	+ 0.2 / - 0.4				+ 0.2 / - 0.3						

CIE Pub.117, 2350 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.0)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-03

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:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

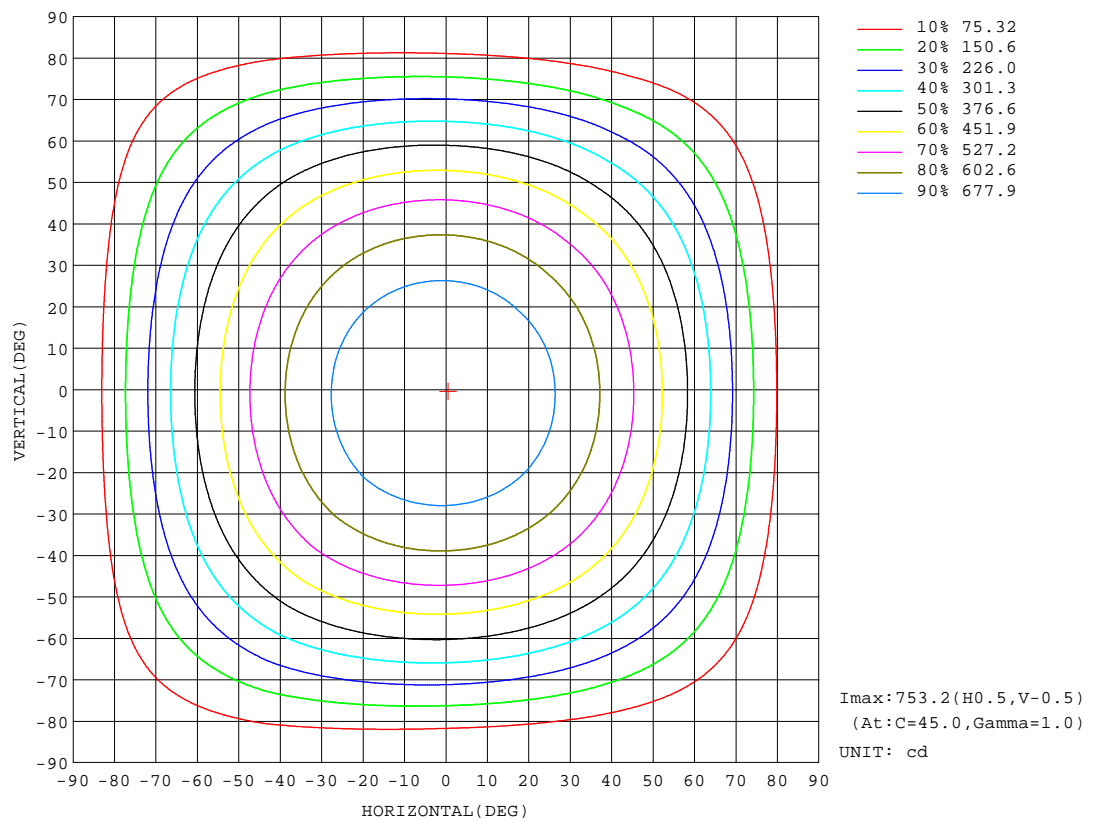
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	55	44	37	54	43	37	30
0.80	66	54	47	65	54	46	63	53	46	39
1.00	75	63	56	73	62	55	71	64	55	47
1.25	82	71	64	80	70	63	77	69	62	55
1.50	87	77	69	85	76	69	82	74	68	60
2.00	94	85	78	92	84	78	88	81	76	68
2.50	98	90	84	96	88	83	92	85	81	72
3.00	101	94	89	99	93	87	95	89	85	76
4.00	105	100	95	103	98	93	98	94	90	81
5.00	108	103	99	105	101	97	100	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:2020-12-03

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:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



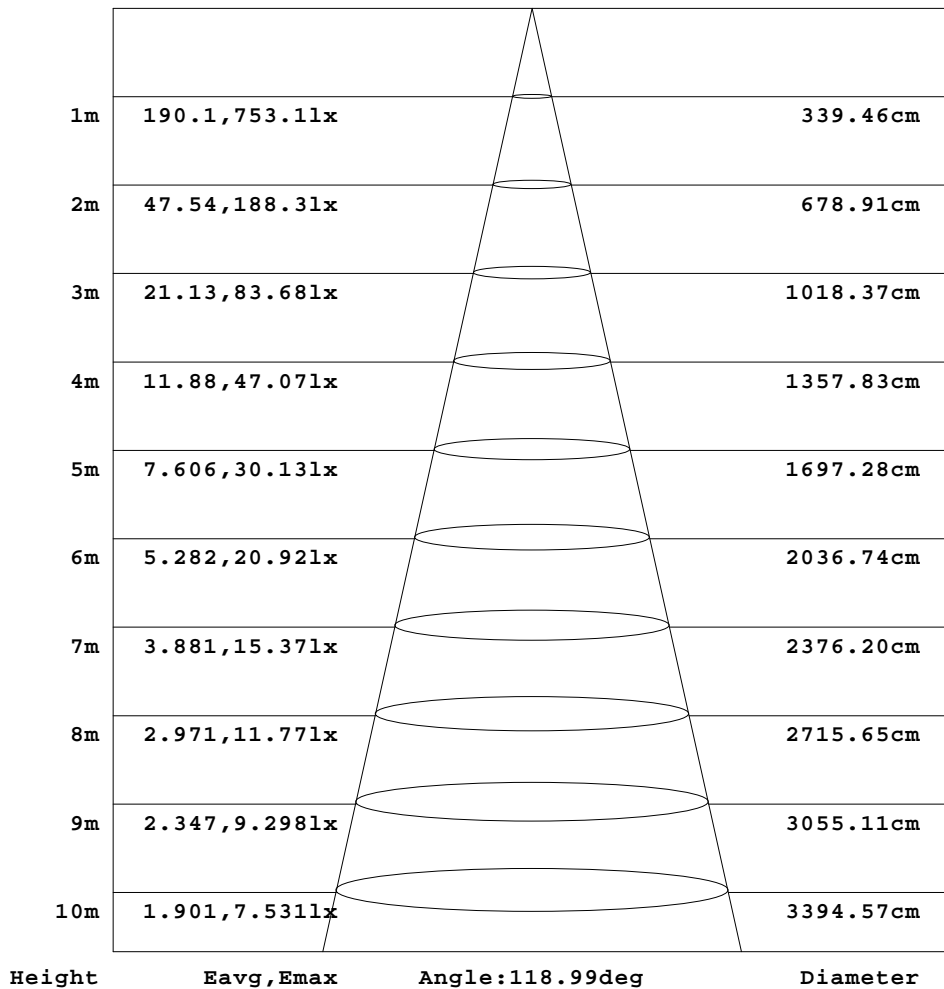
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2020-12-03

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:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

Flux out:1792 lm



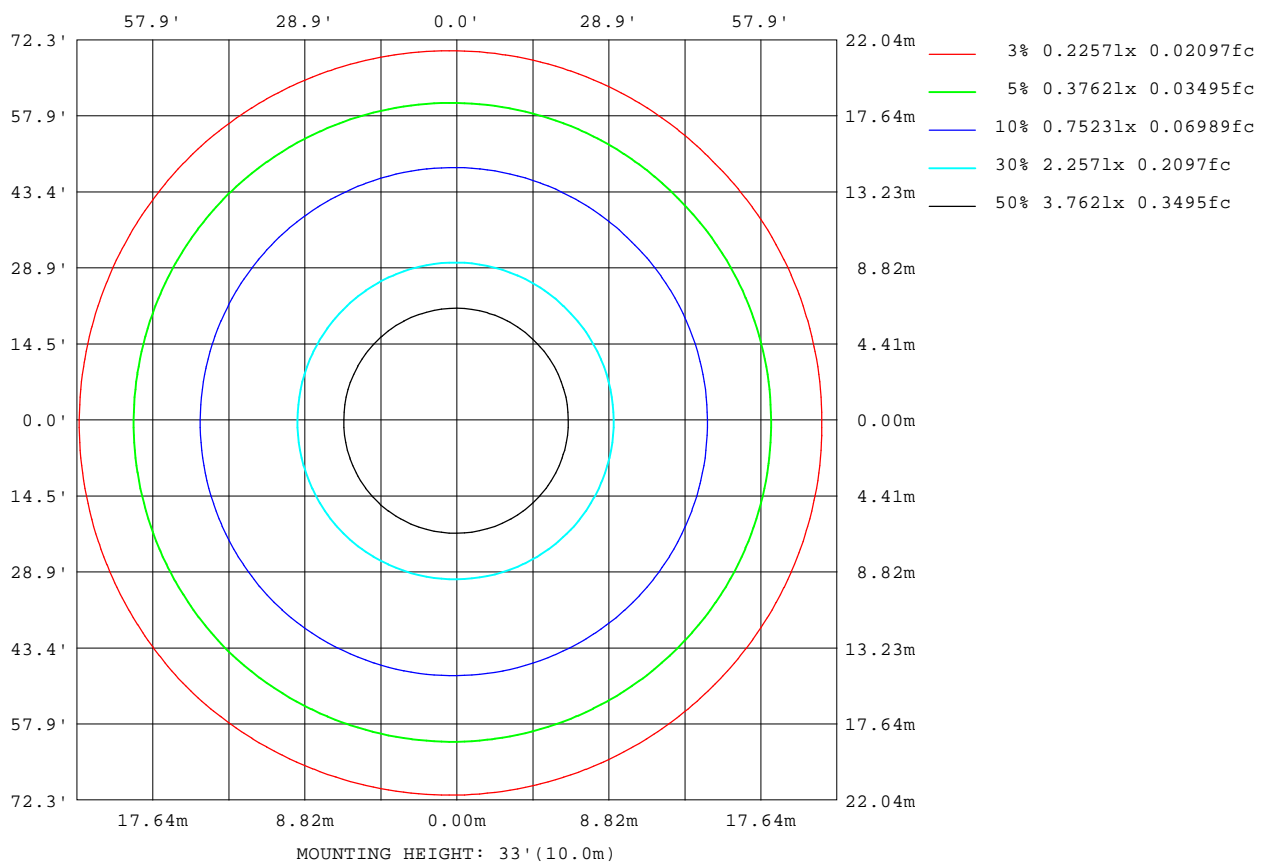
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-03

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

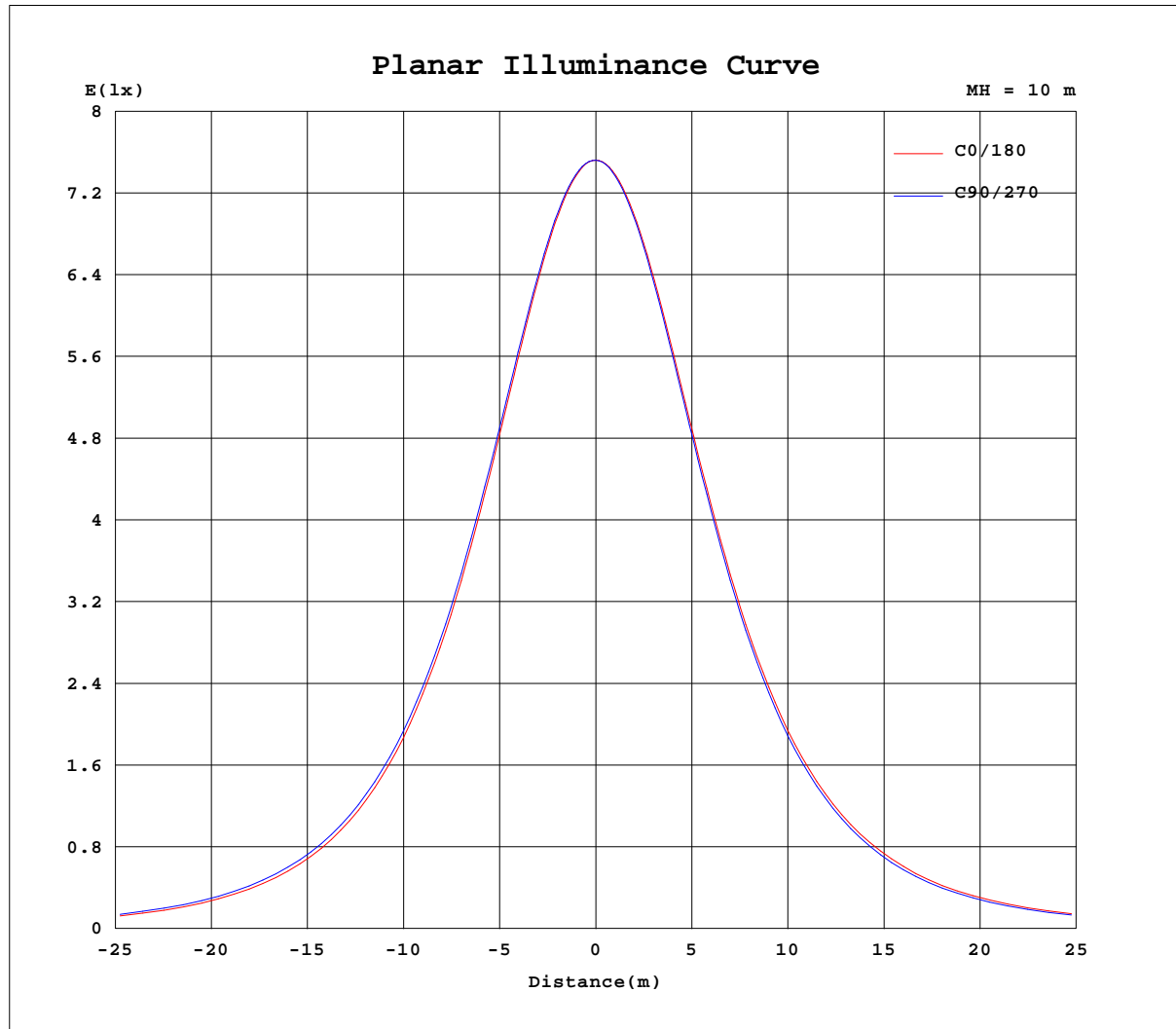
Test:U:24.00V I:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	SERIAL No.:
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2020-12-03

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: 2020-12-03

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:0.6325A P:15.18W PF:1.000 Freq:0Hz Lamp Flux:2350.36x1 lm		
NAME: D81922410NO	TYPE:	WEIGHT:
SPEC.:D81922410NO-8NWDA012WC0100	DIM.: 1000*10*1.6mm	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	752	753	752	753	752	753	752	753										
5	750	751	751	752	750	750	749	749										
10	742	744	745	746	744	743	741	740										
15	729	732	733	735	732	730	728	726										
20	710	714	716	719	715	712	709	706										
25	685	691	694	697	692	688	685	681										
30	655	662	666	670	664	660	655	651										
35	619	627	633	638	631	626	620	615										
40	578	587	594	600	593	587	580	573										
45	530	541	549	557	549	543	535	525										
50	477	489	499	508	500	493	484	472										
55	418	432	442	454	446	438	427	414										
60	355	366	381	393	384	378	363	350										
65	286	298	314	328	321	313	297	282										
70	214	226	244	259	253	245	227	211										
75	140	153	169	188	183	173	156	138										
80	73.2	84.3	98.1	117	114	105	88.6	72.3										
85	23.4	30.1	38.7	54.7	53.1	45.5	32.5	21.9										
90	4.23	5.84	4.56	14.2	13.0	9.43	1.84	2.45										
95	3.03	3.09	2.95	4.39	2.43	1.91	1.11	1.67										
100	3.22	3.23	2.87	3.00	1.95	1.90	2.06	2.49										
105	4.01	3.85	3.19	3.51	2.92	2.88	3.28	3.39										
110	5.04	4.74	4.08	4.29	4.03	3.81	4.25	4.15										
115	6.05	5.72	5.14	5.30	5.06	4.65	5.11	5.21										
120	6.98	6.58	6.09	6.24	6.03	5.43	5.85	6.15										
125	7.84	7.30	6.84	7.06	6.95	6.18	6.52	6.88										
130	8.60	7.90	7.50	7.77	7.77	6.96	7.10	7.44										
135	9.26	8.40	8.05	8.39	8.50	7.75	7.61	7.91										
140	9.71	8.78	8.53	8.96	9.12	8.50	8.05	8.20										
145	10.1	9.04	8.95	9.53	9.62	9.22	8.36	8.40										
150	10.4	9.25	9.37	10.1	9.94	9.90	8.81	8.58										
155	10.8	9.45	9.99	10.7	10.4	10.5	9.60	8.84										
160	11.1	9.77	10.8	11.2	10.7	11.1	10.6	9.30										
165	11.5	10.4	11.6	11.7	11.0	11.5	11.4	10.2										
170	11.5	11.4	12.4	12.2	10.8	12.0	12.2	11.3										
175	11.0	12.4	13.0	12.9	10.4	12.6	13.0	12.6										
180	11.3	13.3	13.5	13.7	11.3	13.3	13.6	13.7										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-12-03

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: