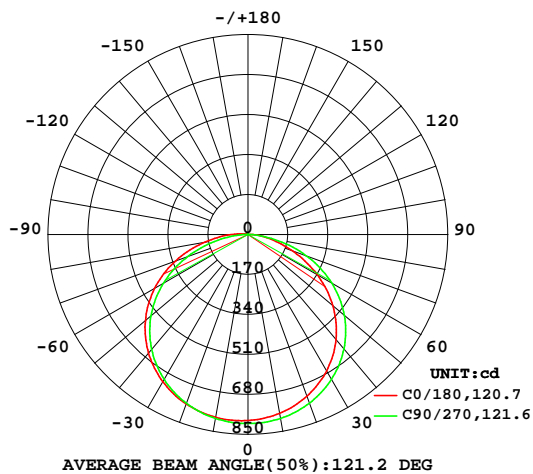


LUMINAIRE PHOTOMETRIC TEST REPORT

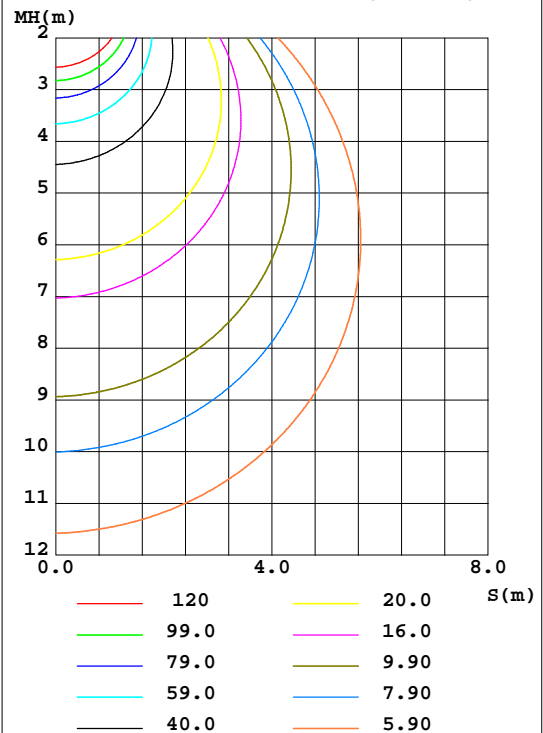
Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 152.22 lm/W			
MODEL	DS81602410NO	I _{max} (cd)	803.6	S/MH(C0/180)	1.36
NOMINAL POWER(W)	16.4	LOR(%)	100.0	S/MH(C90/270)	1.32
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	2557.2	h UP,DN(C0-180)	0.4,46.4
NOMINAL FLUX(lm)	2557.24	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.8,52.4
LAMPS INSIDE	1	h up(%)	1.2	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	h down(%)	98.8	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-03-09

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:7.500m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

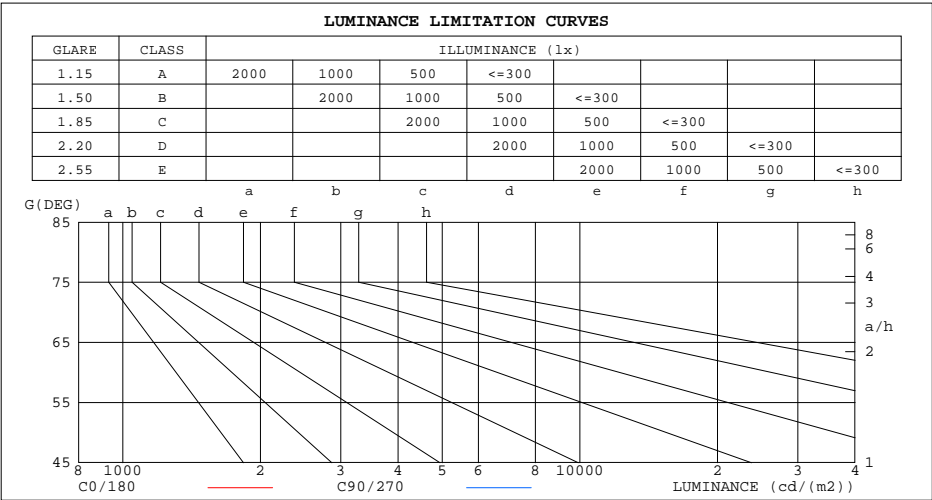
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	772.3	794.3	789.4	794.4					0~ 10	75.65	75.65	2.96,2.96
20	732.3	763.5	767.1	764.1					10~ 20	218.9	294.6	11.5,11.5
30	669.4	711.0	723.9	712.2					20~ 30	338.2	632.8	24.7,24.7
40	582.8	635.3	658.2	637.5					30~ 40	418.8	1052	41.1,41.1
50	471.6	535.2	569.9	538.7					40~ 50	448.5	1500	58.7,58.7
60	339.2	410.3	458.8	415.6					50~ 60	419.9	1920	75.1,75.1
70	198.2	263.3	326.4	270.4					60~ 70	332.9	2253	88.1,88.1
80	82.26	101.8	183.8	116.4					70~ 80	202.3	2455	96,96
90	14.12	2.179	72.85	8.339					80~ 90	72.00	2527	98.8,98.8
100	1.595	1.363	16.17	1.431					90~100	13.22	2540	99.3,99.3
110	2.155	1.950	2.633	2.011					100~110	3.235	2544	99.5,99.5
120	2.773	2.570	2.269	2.635					110~120	2.281	2546	99.6,99.6
130	3.334	3.156	2.855	3.233					120~130	2.559	2549	99.7,99.7
140	3.785	3.651	3.407	3.751					130~140	2.628	2551	99.8,99.8
150	4.152	4.071	3.883	4.136					140~150	2.423	2554	99.9,99.9
160	4.450	4.384	4.299	4.455					150~160	1.959	2556	99.9,99.9
170	4.606	4.569	4.547	4.606					160~170	1.273	2557	100,100
180	4.697	4.694	4.697	4.703					170~180	0.4423	2557	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-03-09

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(180)	C0/180	C90/270
85	488147	425512
80	473702	586251
75	522187	707414
70	579621	769733
65	634884	802543
60	678479	820677
55	710926	829688
50	733725	832592
45	749766	832029

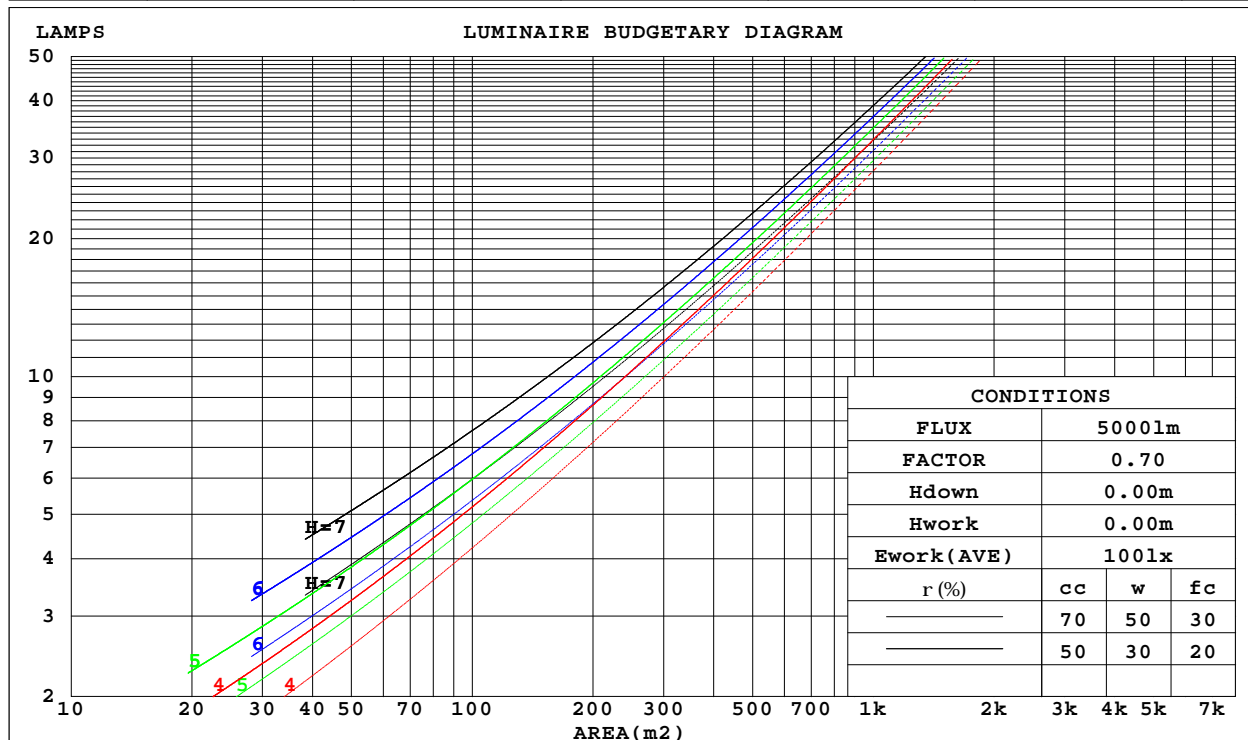
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-03-09

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	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															



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-03-09

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:7.500m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	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	.328	.186	.059	.320	.183	.058	.306	.176	.056	.293	.169	.054	.281	.163	.053	
2.0	.304	.167	.051	.297	.164	.050	.285	.158	.049	.274	.153	.048	.263	.149	.047	
3.0	.279	.149	.045	.273	.146	.044	.262	.142	.043	.252	.138	.042	.243	.134	.042	
4.0	.256	.133	.039	.251	.131	.039	.241	.128	.038	.232	.125	.038	.224	.122	.037	
5.0	.236	.120	.035	.231	.119	.035	.223	.116	.034	.215	.113	.034	.207	.111	.033	
6.0	.218	.109	.031	.214	.108	.031	.206	.106	.031	.199	.103	.030	.192	.101	.030	
7.0	.203	.100	.028	.199	.099	.028	.192	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.189	.092	.026	.186	.091	.026	.179	.090	.026	.173	.088	.025	.168	.086	.025	
9.0	.177	.086	.024	.174	.085	.024	.168	.083	.024	.163	.082	.023	.158	.080	.023	
10.0	.166	.080	.022	.163	.079	.022	.158	.077	.022	.153	.076	.022	.149	.075	.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	.199	.199	.199	.170	.170	.170	.116	.116	.116	.067	.067	.067	.021	.021	.021		
1.0	.191	.165	.142	.163	.142	.122	.112	.097	.084	.064	.056	.049	.021	.018	.016		
2.0	.183	.141	.106	.157	.121	.091	.107	.084	.064	.062	.049	.037	.020	.016	.012		
3.0	.175	.123	.082	.150	.107	.071	.103	.074	.050	.060	.043	.029	.019	.014	.010		
4.0	.168	.110	.066	.144	.095	.058	.099	.066	.041	.057	.039	.024	.018	.013	.008		
5.0	.160	.100	.056	.138	.087	.048	.095	.060	.034	.055	.035	.020	.018	.012	.007		
6.0	.153	.092	.048	.132	.079	.042	.091	.056	.029	.053	.033	.017	.017	.011	.006		
7.0	.146	.085	.042	.126	.074	.037	.087	.052	.026	.050	.030	.015	.016	.010	.005		
8.0	.140	.079	.038	.120	.069	.033	.083	.048	.023	.048	.028	.014	.016	.009	.005		
9.0	.133	.074	.034	.115	.064	.030	.080	.045	.021	.046	.027	.013	.015	.009	.004		
10.0	.128	.070	.031	.110	.061	.027	.076	.043	.020	.044	.025	.012	.014	.008	.004		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-03-09

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm										
NAME: DS81602410NO					TYPE:			WEIGHT:		
SPEC.:DS81602410NO-8NWSDAO12WC0100					DIM.: 1000*10*1.5			SERIAL No.:		
MFR.: Colors					SUR.:1000*10mm			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	32.1	33.7	32.4	33.9	34.2	32.8	34.4	33.1	34.6	34.8
3H	33.5	34.9	33.8	35.2	35.5	34.4	35.9	34.8	36.1	36.4
4H	34.0	35.4	34.3	35.6	35.9	35.1	36.5	35.4	36.7	37.0
6H	34.4	35.6	34.7	35.9	36.2	35.5	36.8	35.9	37.1	37.4
8H	34.5	35.7	34.8	36.0	36.3	35.6	36.8	36.0	37.2	37.5
12H	34.6	35.8	34.9	36.1	36.4	35.6	36.8	36.0	37.2	37.5
4H 2H	32.8	34.2	33.2	34.5	34.8	33.3	34.7	33.7	35.0	35.3
3H	34.4	35.6	34.7	35.9	36.2	35.2	36.3	35.5	36.7	37.0
4H	35.0	36.1	35.4	36.4	36.8	35.9	37.0	36.3	37.4	37.7
6H	35.5	36.4	35.9	36.8	37.2	36.4	37.4	36.9	37.8	38.2
8H	35.6	36.5	36.1	36.9	37.3	36.6	37.5	37.0	37.9	38.3
12H	35.8	36.6	36.2	37.0	37.4	36.7	37.5	37.1	37.9	38.4
8H 4H	35.3	36.2	35.7	36.6	37.0	36.1	37.0	36.5	37.4	37.8
6H	35.9	36.7	36.4	37.1	37.5	36.8	37.5	37.2	38.0	38.4
8H	36.1	36.8	36.6	37.3	37.7	37.0	37.7	37.5	38.1	38.6
12H	36.4	36.9	36.9	37.4	37.9	37.1	37.7	37.6	38.2	38.7
12H 4H	35.3	36.1	35.8	36.5	37.0	36.1	36.9	36.6	37.4	37.8
6H	36.0	36.6	36.4	37.1	37.6	36.8	37.5	37.3	37.9	38.4
8H	36.3	36.8	36.7	37.3	37.8	37.1	37.6	37.6	38.1	38.6
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, 2557 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.3)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-03-09

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	Shielding Angle:

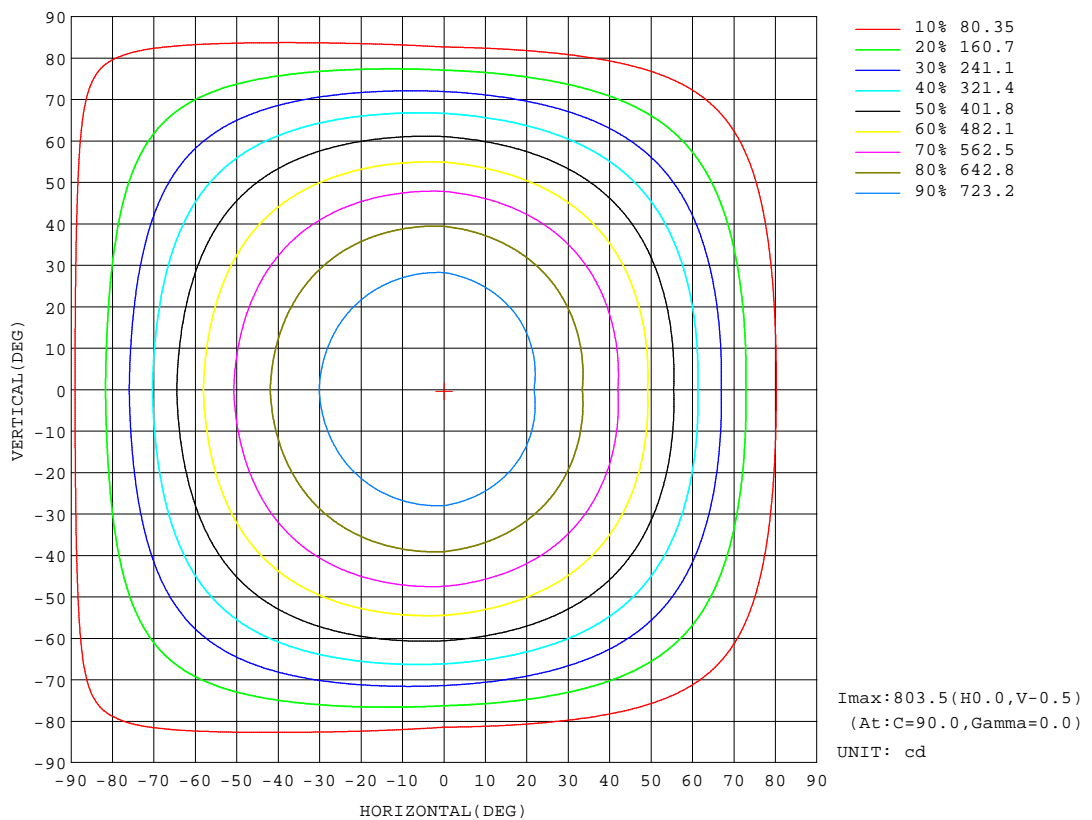
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	55	44	36	55	43	36	53	43	36	30
0.80	65	53	46	64	53	46	62	52	45	38
1.00	74	62	55	73	62	54	70	63	54	46
1.25	81	70	63	80	69	62	77	68	61	54
1.50	86	76	68	84	75	68	81	73	67	59
2.00	93	84	77	91	83	77	88	81	75	67
2.50	97	89	83	95	88	82	91	85	80	71
3.00	101	93	88	99	92	86	94	89	84	75
4.00	105	99	94	102	97	92	98	93	90	80
5.00	108	102	98	105	100	96	100	96	93	83
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-03-09

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	Shielding Angle:



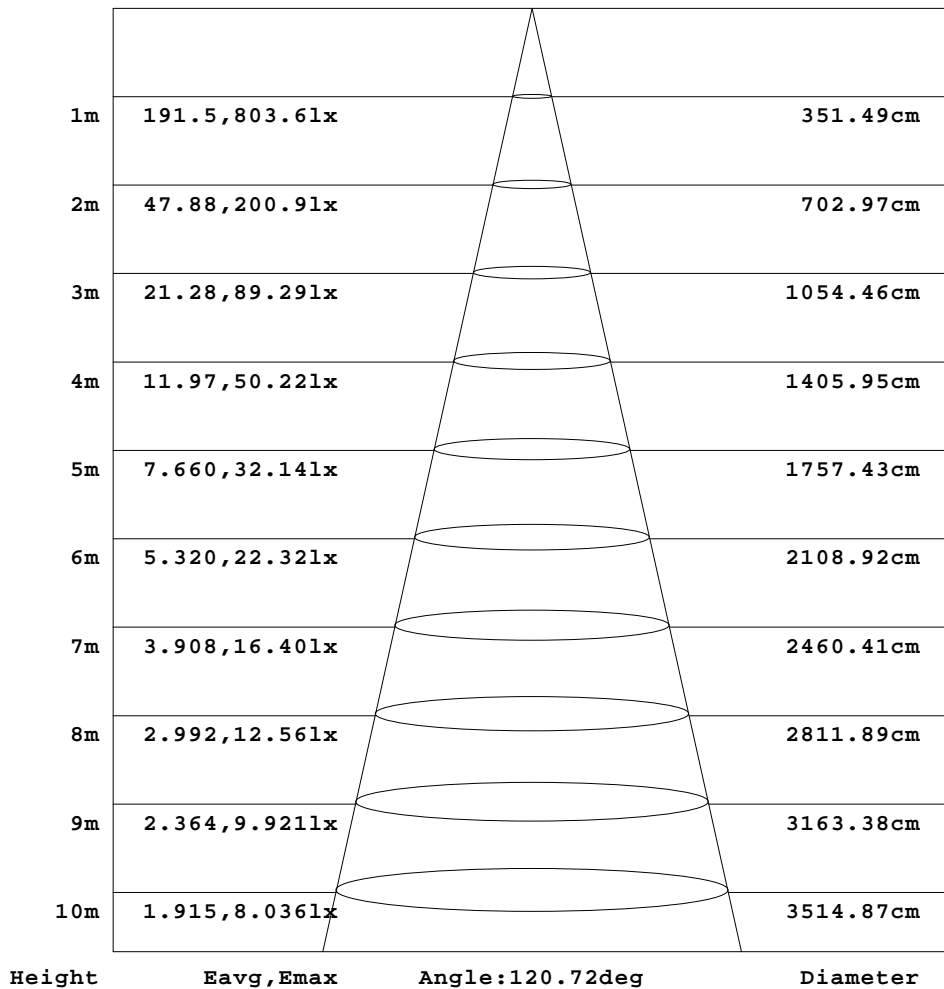
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-03-09

deg Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	Shielding Angle:

Flux out:1958 lm



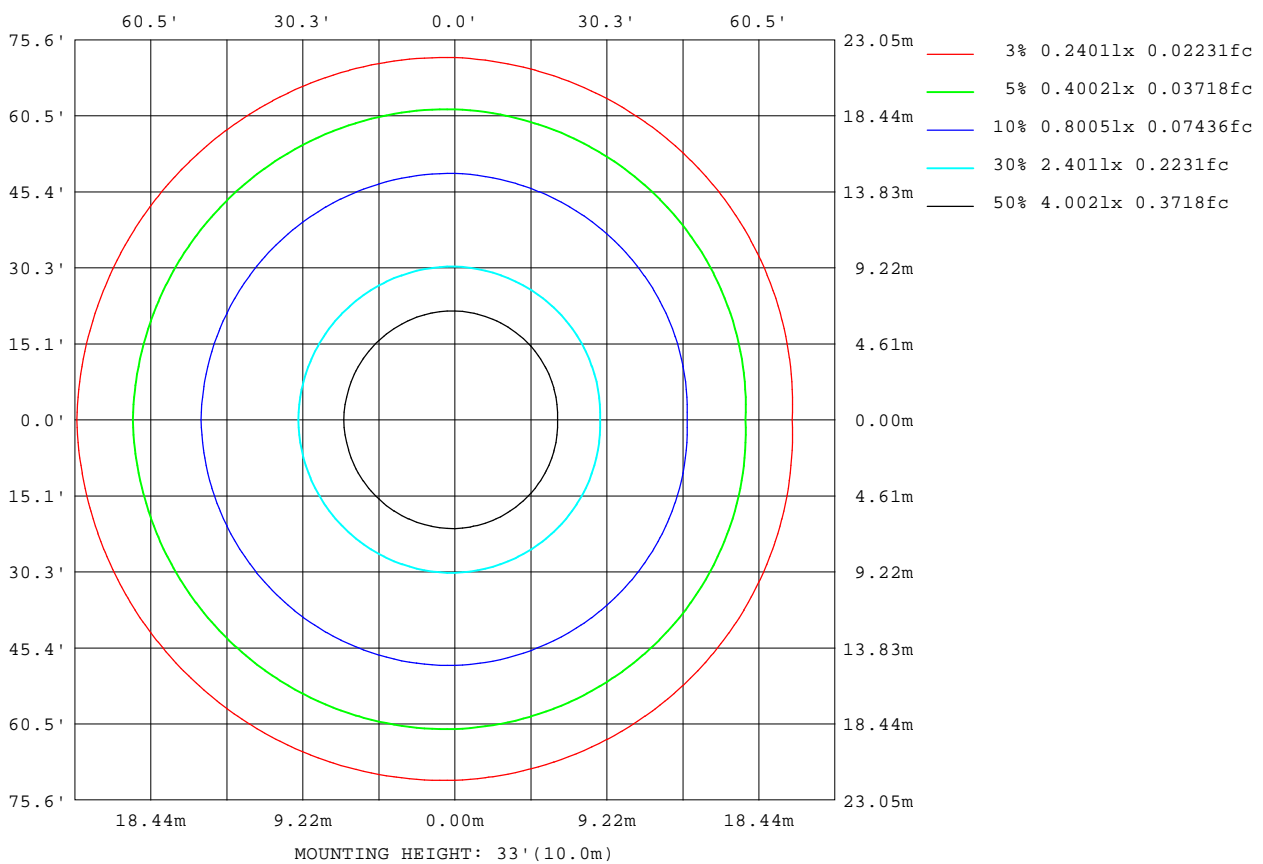
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-03-09

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-03-09

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:7.500m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	Shielding Angle:

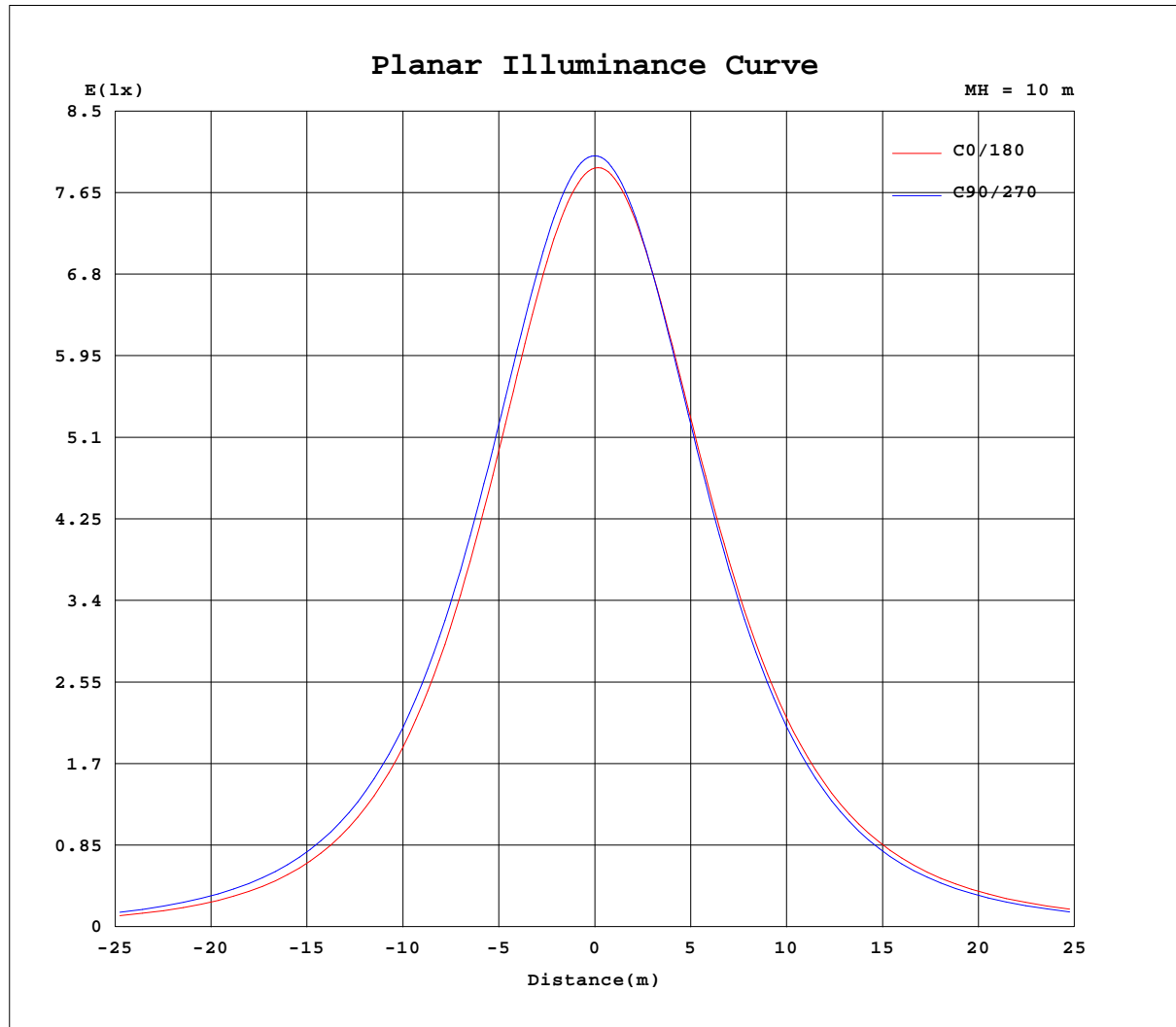
AvgL	cd/m2
L_0~180(65)av	784616
L_0~180(75)av	753416
L_0~180(85)av	933422
L_90~270(65)av	809818
L_90~270(75)av	725491
L_90~270(85)av	506853
L_45(65)av	809725
L_45(75)av	750415
L_45(85)av	694646

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-03-09

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:7.500m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-03-09

Range: 0 - 180DEG
Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 7.500m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.7000A P:16.80W PF:0 Freq:0Hz Lamp Flux:2557.24x1 lm		
NAME: DS81602410NO	TYPE:	WEIGHT:
SPEC.:DS81602410NO-8NWSDAO12WC0100	DIM.: 1000*10*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*10mm	Shielding Angle:

Table--1

UNIT: cd

C(DEC) g (DEC)	0	90	180	270															
0	791	804	791	804															
5	784	801	793	801															
10	772	794	789	794															
15	755	782	781	782															
20	732	764	767	764															
25	704	740	748	741															
30	669	711	724	712															
35	629	676	694	678															
40	583	635	658	637															
45	530	588	617	591															
50	472	535	570	539															
55	408	476	517	480															
60	339	410	459	416															
65	268	339	395	345															
70	198	263	326	270															
75	135	183	255	192															
80	82.3	102	184	116															
85	42.5	37.1	120	51.3															
90	14.1	2.18	72.9	8.34															
95	2.76	1.08	39.1	1.14															
100	1.59	1.36	16.2	1.43															
105	1.85	1.65	5.58	1.74															
110	2.15	1.95	2.63	2.01															
115	2.46	2.27	2.00	2.33															
120	2.77	2.57	2.27	2.64															
125	3.07	2.87	2.57	2.95															
130	3.33	3.16	2.85	3.23															
135	3.56	3.42	3.13	3.49															
140	3.78	3.65	3.41	3.75															
145	4.00	3.89	3.65	3.96															
150	4.15	4.07	3.88	4.14															
155	4.34	4.25	4.11	4.31															
160	4.45	4.38	4.30	4.46															
165	4.55	4.49	4.44	4.55															
170	4.61	4.57	4.55	4.61															
175	4.67	4.65	4.65	4.66															
180	4.70	4.69	4.70	4.70															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-03-09

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks: