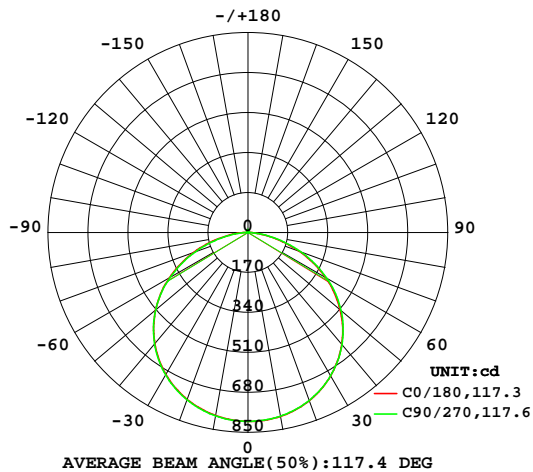


LUMINAIRE PHOTOMETRIC TEST REPORT

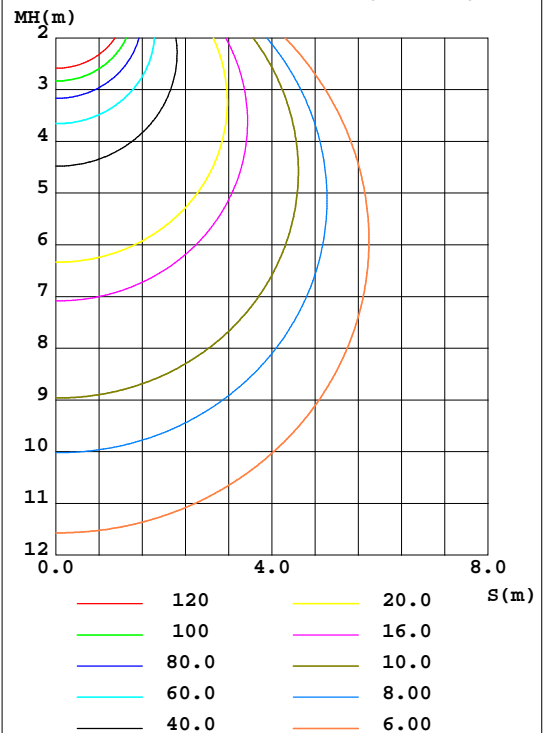
Test:U:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWN5A012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 127.89 lm/W			
MODEL	DS81504810NO	I _{max} (cd)	804.3	S/MH(C0/180)	1.30
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	2455.5	h UP,DN(C0-180)	0.8,49.3
NOMINAL FLUX(lm)	2455.46	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.7,49.2
LAMPS INSIDE	1	h up(%)	1.5	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	48	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:2020-07-31

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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

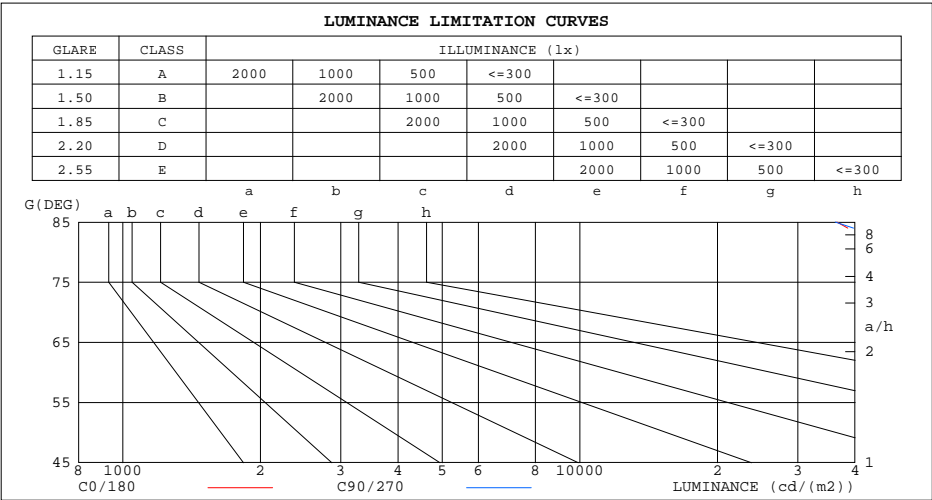
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	794.3	796.2	793.2	793.1	790.5	792.0	791.9	793.5	0- 10	76.21	76.21	3.1,3.1
20	761.5	763.9	760.1	759.7	755.6	756.5	757.7	759.3	10- 20	220.1	296.3	12.1,12.1
30	703.7	707.3	703.2	703.2	697.5	697.9	699.9	700.8	20- 30	338.3	634.5	25.8,25.8
40	620.8	624.6	622.3	623.4	616.6	616.6	618.4	617.8	30- 40	415.4	1050	42.8,42.8
50	512.3	517.8	517.0	520.4	513.1	512.6	513.1	509.5	40- 50	439.5	1489	60.7,60.7
60	380.0	382.7	385.4	392.6	385.3	386.2	381.7	377.8	50- 60	404.0	1894	77.1,77.1
70	230.0	231.8	236.7	248.0	244.0	242.7	235.9	228.7	60- 70	308.4	2202	89.7,89.7
80	84.16	81.46	88.95	102.9	102.5	98.73	92.22	83.95	70- 80	171.2	2373	96.6,96.6
90	6.877	5.332	3.477	10.71	12.15	9.049	2.433	5.177	80- 90	44.56	2418	98.5,98.5
100	2.858	2.856	2.624	2.594	1.767	1.662	1.625	1.977	90-100	3.085	2421	98.6,98.6
110	4.812	4.529	4.423	3.900	3.526	3.366	3.617	3.671	100-110	3.247	2424	98.7,98.7
120	6.735	6.538	6.514	5.564	5.273	5.102	5.239	5.130	110-120	4.844	2429	98.9,98.9
130	8.396	8.077	8.187	7.083	6.870	6.683	6.541	6.445	120-130	5.856	2435	99.2,99.2
140	9.701	8.964	9.235	8.584	8.198	8.312	7.516	7.312	130-140	6.106	2441	99.4,99.4
150	10.72	9.538	9.818	10.09	9.101	9.935	8.738	7.968	140-150	5.628	2446	99.6,99.6
160	11.71	10.17	11.29	11.42	10.35	11.38	10.75	9.243	150-160	4.669	2451	99.8,99.8
170	12.25	11.69	12.84	12.59	10.98	12.50	12.55	11.70	160-170	3.235	2454	100,100
180	11.95	13.91	14.09	14.09	11.95	13.89	14.09	14.08	170-180	1.199	2455	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:2020-07-31

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:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWN5A012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



LUMINANCE cd/(m2)		
G(°)	C0/180	C90/270
85	36499	36222
80	48464	51222
75	59071	61536
70	67242	69212
65	72462	74034
60	75991	77080
55	78268	79371
50	79703	80426
45	80587	81015

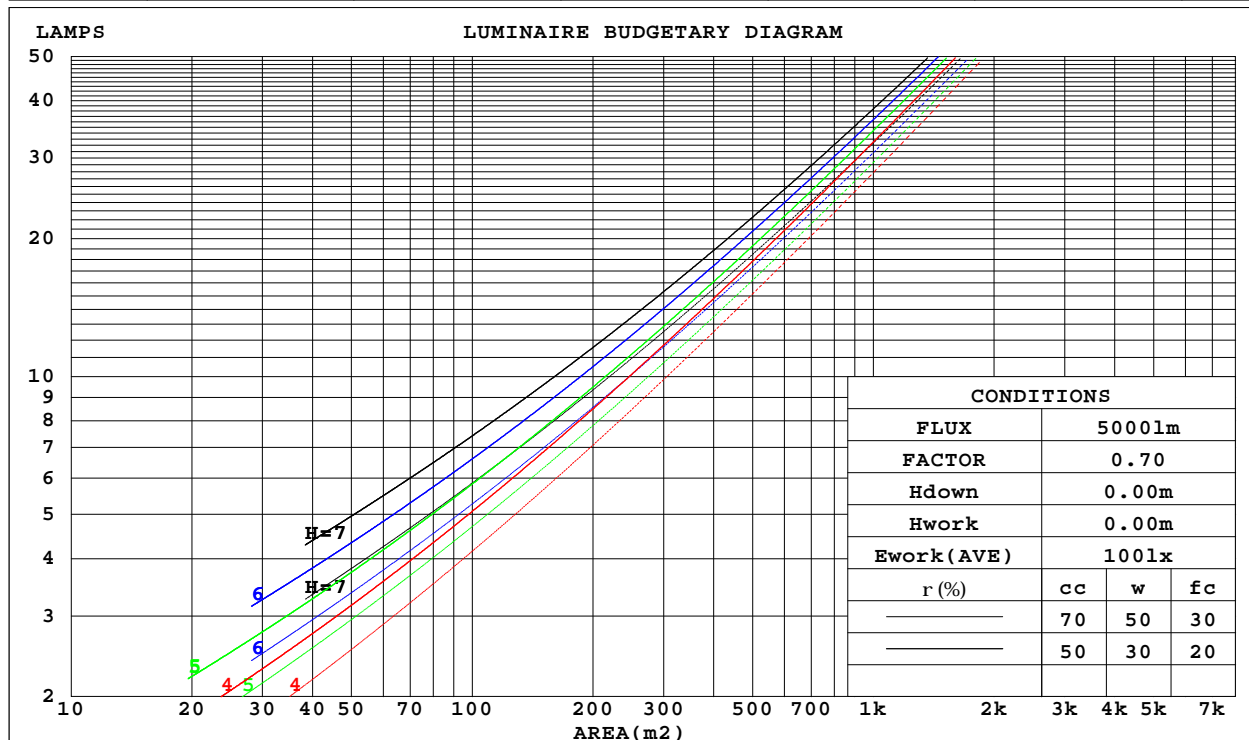
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-07-31

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:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWN5A012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
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															



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2020-07-31

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:

WEC AND CCEC

Test:U:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWN5A012WC0100	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	.311 .177 .056	.304 .173 .055	.289 .166 .053	.276 .159 .051	.265 .153 .049	
2.0	.293 .161 .049	.287 .158 .049	.274 .152 .047	.263 .147 .046	.252 .142 .045	
3.0	.272 .145 .043	.266 .142 .043	.255 .138 .042	.244 .134 .041	.235 .130 .040	
4.0	.251 .130 .038	.245 .128 .038	.235 .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	.164 .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 .044	.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	.141 .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:2020-07-31

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:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm											
NAME: DS81504810NO					TYPE:			WEIGHT:			
SPEC.:DS81504810NO-8NWN5A012WC0100					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	24.9	26.4	25.2	26.6	26.9	25.0	26.5	25.2	26.7	26.9	
	3H	26.4	27.8	26.7	28.0	28.3	26.4	27.8	26.8	28.1	28.4
	4H	26.9	28.2	27.2	28.5	28.8	27.0	28.3	27.3	28.6	28.9
	6H	27.2	28.4	27.6	28.7	29.1	27.3	28.6	27.7	28.9	29.2
	8H	27.3	28.5	27.6	28.8	29.1	27.4	28.6	27.8	28.9	29.3
	12H	27.3	28.5	27.7	28.8	29.1	27.4	28.6	27.8	28.9	29.3
4H	2H	25.5	26.8	25.8	27.1	27.4	25.5	26.9	25.9	27.2	27.4
	3H	27.1	28.3	27.5	28.6	29.0	27.2	28.4	27.6	28.7	29.0
	4H	27.8	28.8	28.2	29.2	29.5	27.9	28.9	28.3	29.3	29.6
	6H	28.2	29.1	28.6	29.5	29.9	28.3	29.2	28.7	29.6	30.0
	8H	28.3	29.2	28.7	29.6	30.0	28.4	29.3	28.9	29.7	30.1
	12H	28.4	29.2	28.8	29.6	30.0	28.5	29.3	28.9	29.7	30.1
8H	4H	28.0	28.8	28.4	29.2	29.7	28.1	28.9	28.5	29.3	29.7
	6H	28.5	29.2	29.0	29.7	30.1	28.6	29.3	29.1	29.8	30.2
	8H	28.7	29.3	29.2	29.8	30.3	28.8	29.4	29.3	29.9	30.4
	12H	28.8	29.3	29.3	29.8	30.3	28.9	29.5	29.4	29.9	30.5
12H	4H	28.0	28.8	28.4	29.2	29.6	28.1	28.9	28.5	29.3	29.7
	6H	28.5	29.2	29.0	29.6	30.1	28.6	29.3	29.1	29.7	30.2
	8H	28.7	29.3	29.2	29.8	30.3	28.9	29.4	29.4	29.9	30.4
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.4					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 2455 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 3.1$)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-07-31

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:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWN5A012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

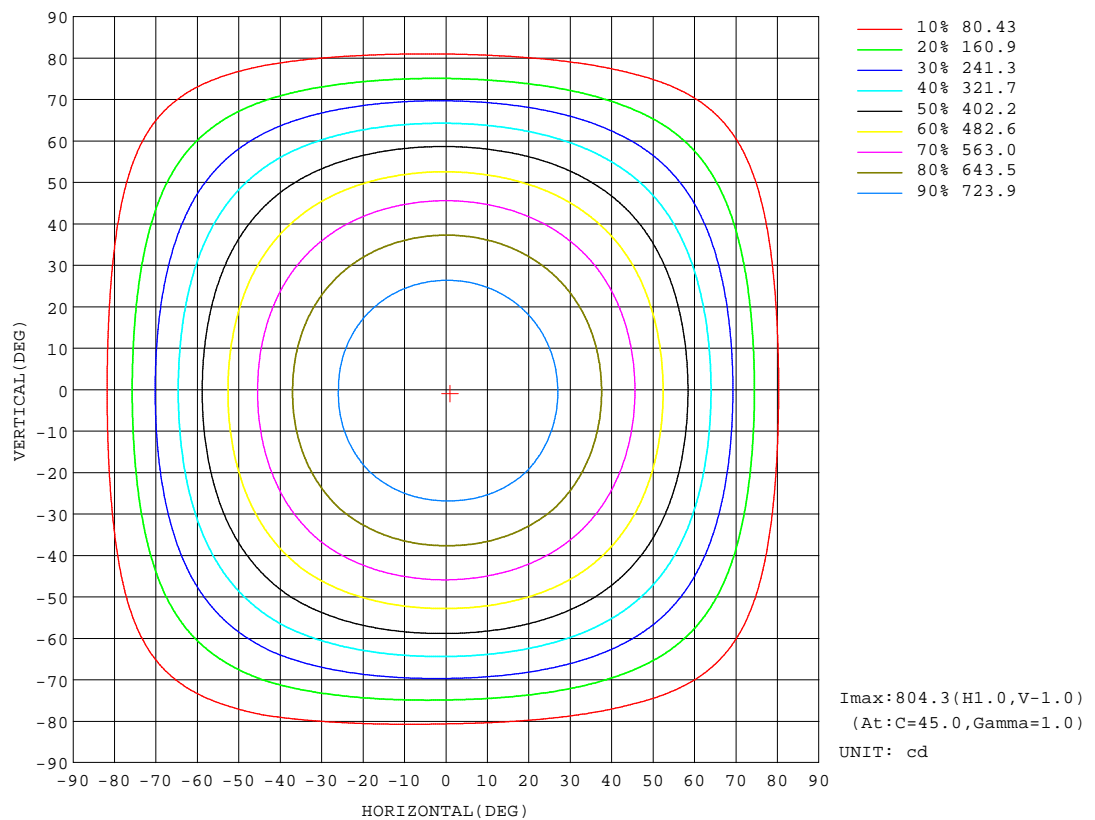
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	45	38	56	44	37	54	44	37	31
0.80	66	55	47	65	54	47	63	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	77
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:2020-07-31

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:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWSA012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



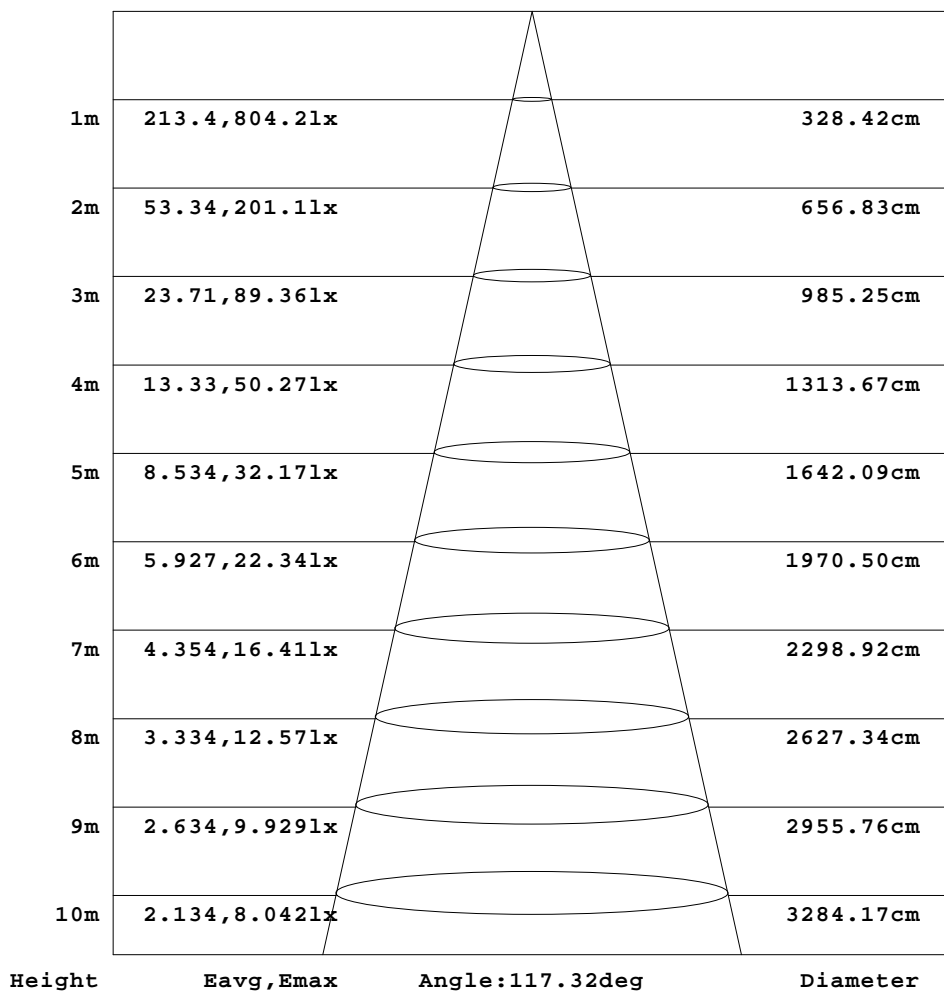
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-07-31

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:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWN5A012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

Flux out:1857 lm



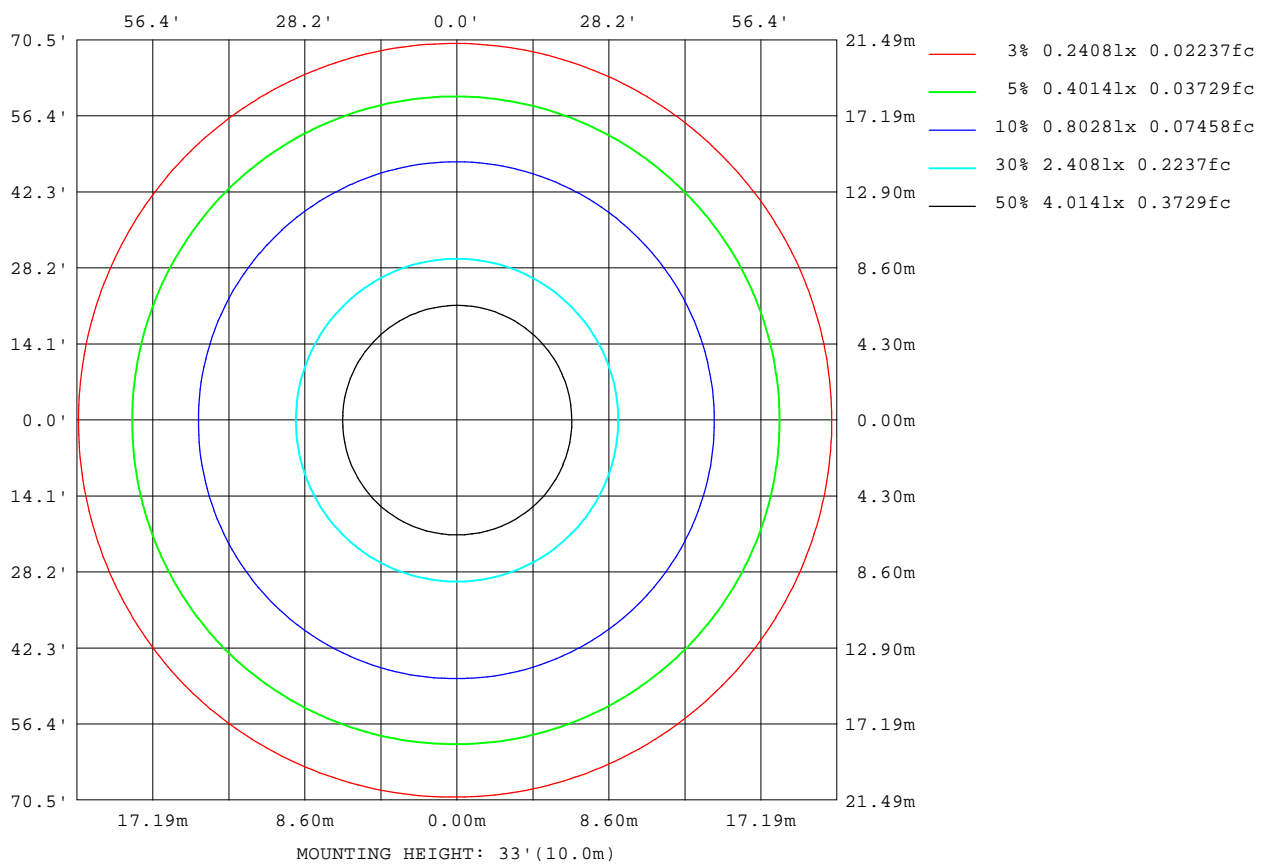
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-07-31

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

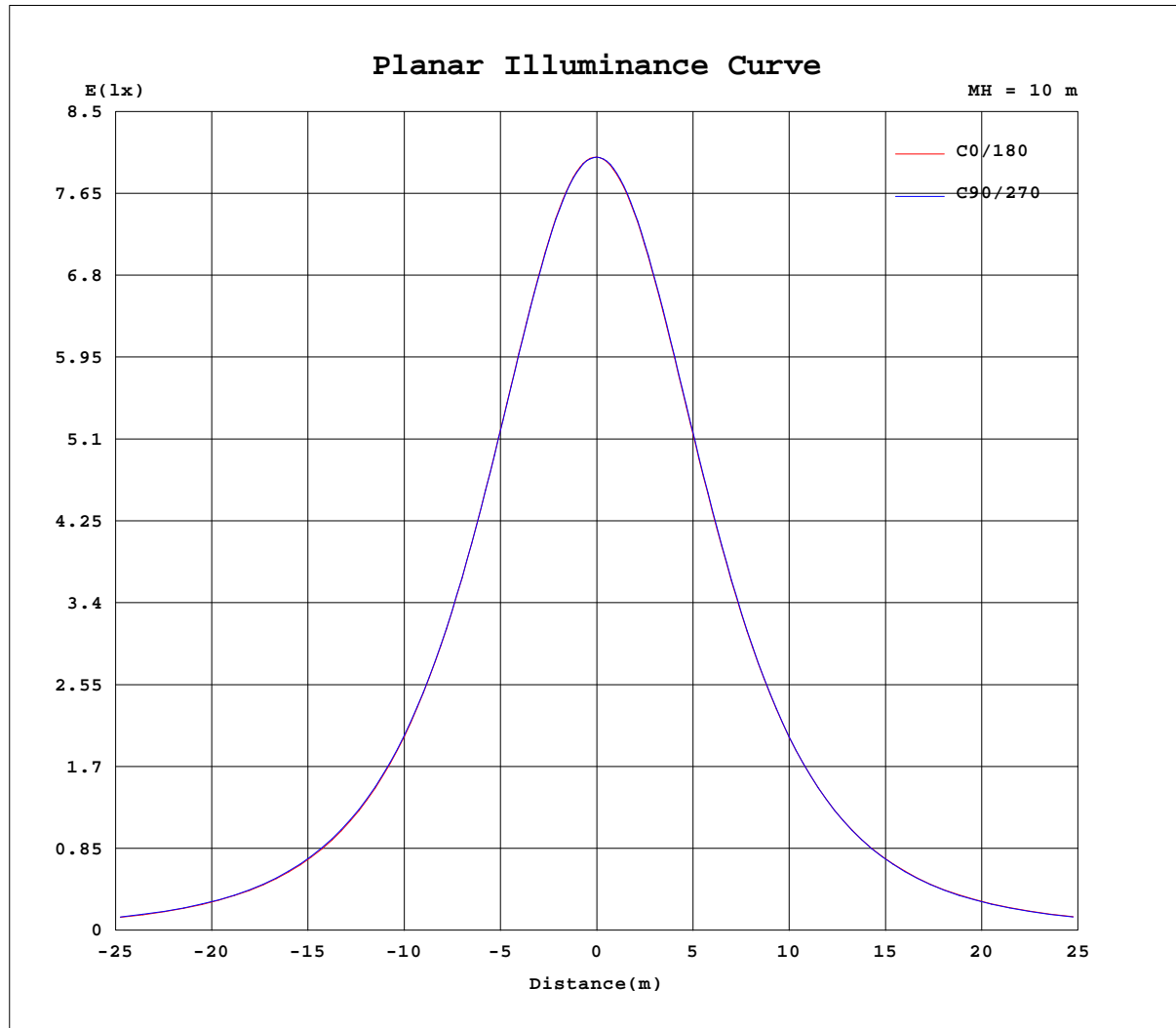
Test:U:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWN5A012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2020-07-31

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: 2020-07-31

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:48.00V I:0.4000A P:19.20W PF:1.000 Freq:0Hz Lamp Flux:2455.46x1 lm		
NAME: DS81504810NO	TYPE:	WEIGHT:
SPEC.:DS81504810NO-8NWN5A012WC0100	DIM.: 1000*10*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*10	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	45	90	135	180	225	270	315										
0	803	804	803	804	803	804	803	804										
5	801	803	801	801	799	801	800	801										
10	794	796	793	793	790	792	792	793										
15	781	783	779	779	776	777	778	779										
20	761	764	760	760	756	757	758	759										
25	736	739	735	734	730	730	732	733										
30	704	707	703	703	698	698	700	701										
35	666	669	666	666	660	660	662	663										
40	621	625	622	623	617	617	618	618										
45	570	570	573	575	568	568	569	567										
50	512	518	517	520	513	513	513	509										
55	449	455	455	460	453	452	451	446										
60	380	383	385	393	385	386	382	378										
65	306	308	313	322	316	316	311	305										
70	230	232	237	248	244	243	236	229										
75	153	153	159	173	171	167	161	152										
80	84.2	81.5	88.9	103	103	98.7	92.2	83.9										
85	31.8	30.8	31.6	45.5	45.8	42.7	35.0	30.4										
90	6.88	5.33	3.48	10.7	12.2	9.05	2.43	5.18										
95	2.63	2.50	2.52	2.55	2.45	1.79	0.87	1.44										
100	2.86	2.86	2.62	2.59	1.77	1.66	1.62	1.98										
105	3.78	3.61	3.29	3.15	2.65	2.50	2.66	2.82										
110	4.81	4.53	4.42	3.90	3.53	3.37	3.62	3.67										
115	5.79	5.54	5.56	4.74	4.39	4.25	4.46	4.53										
120	6.73	6.54	6.51	5.56	5.27	5.10	5.24	5.13										
125	7.63	7.40	7.36	6.34	6.11	5.87	5.92	5.81										
130	8.40	8.08	8.19	7.08	6.87	6.68	6.54	6.45										
135	9.04	8.64	8.74	7.82	7.58	7.48	7.08	6.91										
140	9.70	8.96	9.24	8.58	8.20	8.31	7.52	7.31										
145	10.3	9.27	9.51	9.36	8.70	9.15	7.98	7.60										
150	10.7	9.54	9.82	10.1	9.10	9.93	8.74	7.97										
155	11.2	9.83	10.5	10.8	9.74	10.7	9.79	8.43										
160	11.7	10.2	11.3	11.4	10.4	11.4	10.7	9.24										
165	12.3	10.7	12.1	12.0	11.0	11.9	11.6	10.4										
170	12.3	11.7	12.8	12.6	11.0	12.5	12.5	11.7										
175	11.7	12.8	13.5	13.4	11.0	13.2	13.4	13.0										
180	11.9	13.9	14.1	14.1	11.9	13.9	14.1	14.1										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-07-31

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: