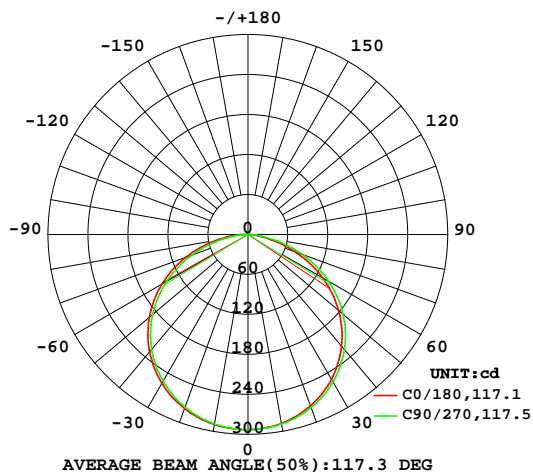


LUMINAIRE PHOTOMETRIC TEST REPORT

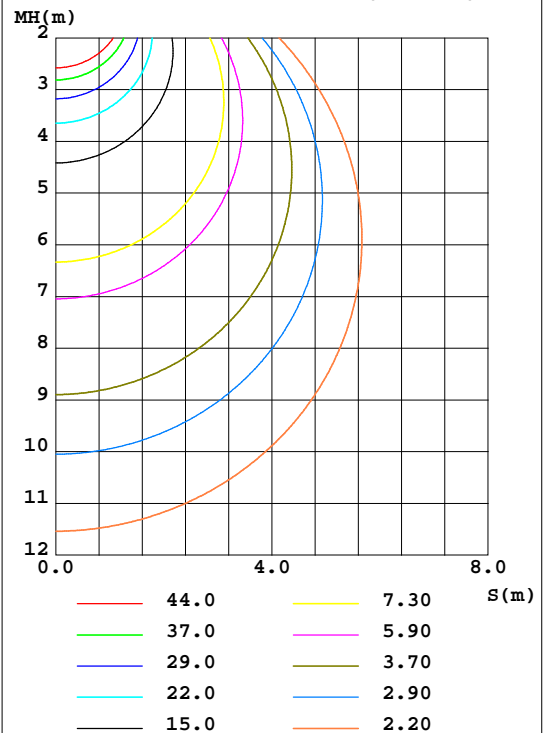
Test:U:24.00V I:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 98.13 lm/W			
MODEL	DS81202412NO	I _{max} (cd)	293.2	S/MH(C0/180)	1.31
NOMINAL POWER(W)	9.1	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	893.01	h UP,DN(C0-180)	0.8,48.5
NOMINAL FLUX(lm)	893.011	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.7,50.0
LAMPS INSIDE	1	h up(%)	1.5	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	h down(%)	98.5	CIBSE SHR MAX	1.35

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:2020-03-30

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:

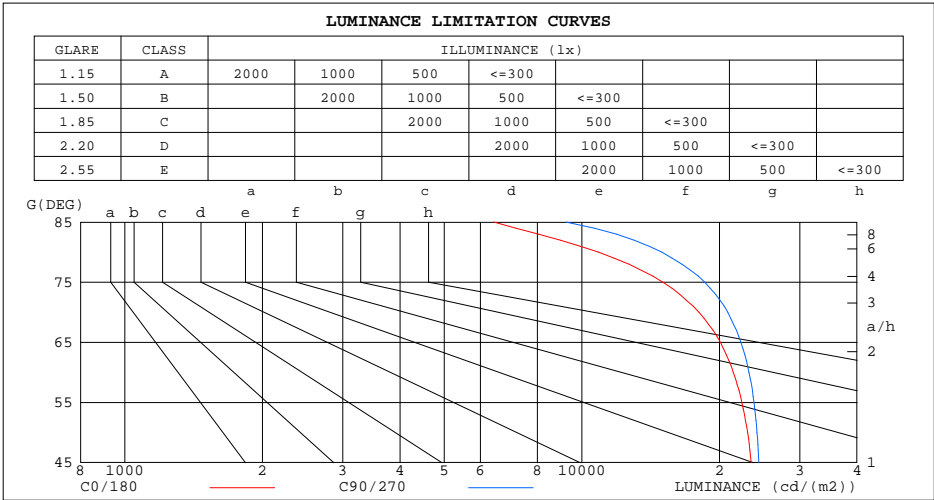
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	287.8	288.6	289.0	290.0	289.7	289.7	288.6	287.7	0- 10	27.77	27.77	3.11,3.11
20	273.8	275.2	276.5	278.7	278.2	277.7	275.9	273.7	10- 20	80.11	107.9	12.1,12.1
30	250.9	252.9	255.3	258.8	258.2	257.4	254.7	251.1	20- 30	122.9	230.8	25.8,25.8
40	218.8	221.4	225.3	230.4	229.8	228.7	225.0	219.5	30- 40	150.7	381.6	42.7,42.7
50	177.8	180.9	186.5	193.6	193.3	191.9	186.9	179.3	40- 50	159.3	540.9	60.6,60.6
60	128.8	132.1	139.3	148.8	149.1	147.5	141.0	131.2	50- 60	146.4	687.2	77,77
70	74.09	77.10	85.59	97.23	98.68	96.76	88.74	77.33	60- 70	112.5	799.8	89.6,89.6
80	22.67	24.48	31.18	43.26	45.96	44.12	34.31	25.54	70- 80	63.20	863.0	96.6,96.6
90	1.194	1.419	1.031	5.195	6.854	5.746	0.5987	0.8439	80- 90	16.47	879.4	98.5,98.5
100	1.035	1.083	0.8685	0.8752	0.5025	0.4593	0.4955	0.7133	90-100	1.196	880.6	98.6,98.6
110	1.729	1.737	1.582	1.305	1.143	1.027	1.151	1.389	100-110	1.114	881.7	98.7,98.7
120	2.451	2.466	2.371	1.911	1.785	1.668	1.731	1.890	110-120	1.700	883.4	98.9,98.9
130	3.065	3.034	2.991	2.499	2.420	2.289	2.212	2.317	120-130	2.079	885.5	99.2,99.2
140	3.585	3.413	3.364	3.047	2.919	2.876	2.598	2.632	130-140	2.190	887.7	99.4,99.4
150	3.914	3.661	3.599	3.514	3.306	3.392	3.107	2.900	140-150	2.025	889.7	99.6,99.6
160	4.268	3.901	4.046	3.968	3.735	3.946	3.789	3.412	150-160	1.680	891.4	99.8,99.8
170	4.487	4.416	4.581	4.315	3.901	4.354	4.450	4.287	160-170	1.160	892.6	100,100
180	4.362	5.016	5.016	4.916	4.348	5.023	5.030	4.929	170-180	0.4302	893.0	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:2020-03-30

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:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	Shielding Angle:



LUMINANCE cd/(m2)		
G(180)	C0/180	C90/270
85	6418	9233
80	10881	14963
75	15047	18576
70	18051	20855
65	20094	22294
60	21462	23216
55	22414	23809
50	23052	24173
45	23494	24387

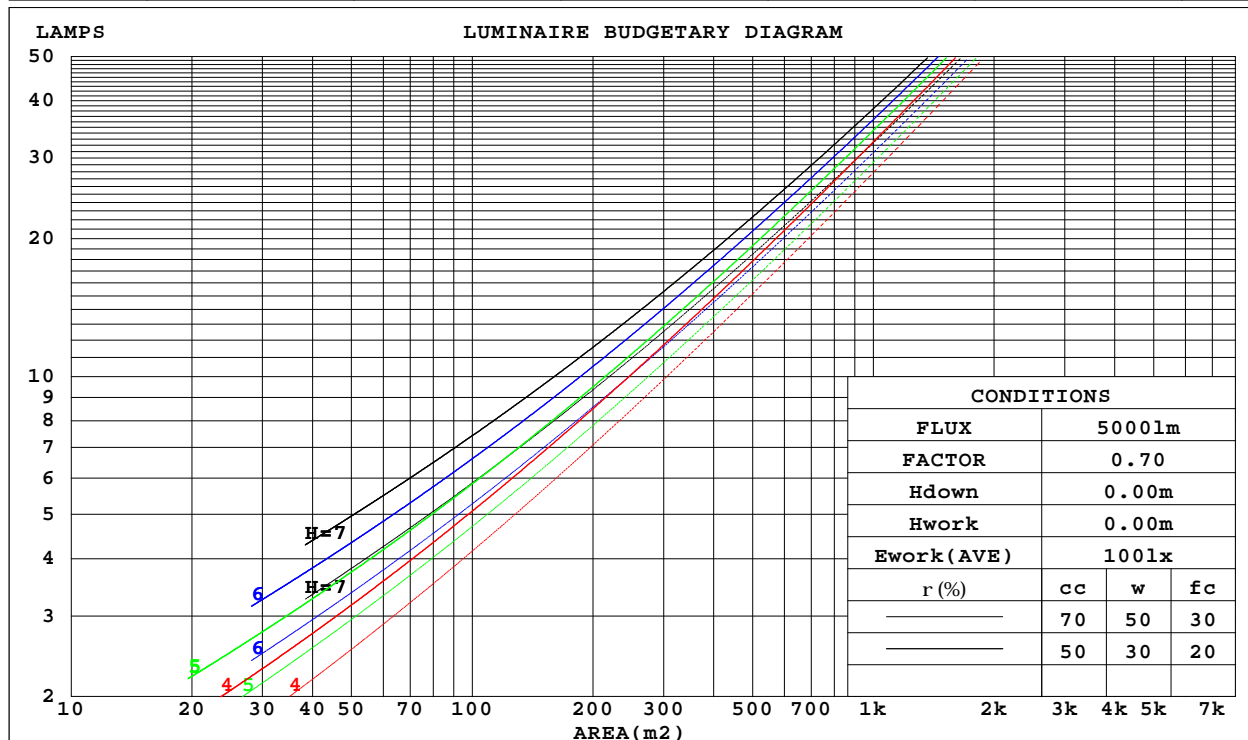
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-03-30

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:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	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:2020-03-30

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:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	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	.167	.053	.277	.160	.051	.265	.154	.050	
2.0	.294	.161	.049	.287	.158	.049	.275	.153	.047	.263	.148	.046	.252	.143	.045	
3.0	.272	.145	.043	.266	.142	.043	.255	.138	.042	.245	.134	.041	.235	.130	.040	
4.0	.251	.130	.038	.246	.129	.038	.236	.125	.037	.227	.122	.037	.218	.118	.036	
5.0	.232	.118	.034	.227	.117	.034	.218	.114	.033	.210	.111	.033	.202	.108	.033	
6.0	.215	.108	.031	.211	.106	.031	.203	.104	.030	.196	.102	.030	.189	.099	.029	
7.0	.200	.099	.028	.196	.098	.028	.189	.096	.028	.183	.094	.027	.176	.092	.027	
8.0	.187	.091	.026	.183	.090	.026	.177	.088	.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	.164	.079	.022	.162	.078	.022	.156	.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	.202	.202	.202	.173	.173	.173	.118	.118	.118	.068	.068	.068	.022	.022	.022		
1.0	.192	.168	.146	.164	.144	.126	.112	.099	.087	.065	.057	.050	.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	.151	.109	.074	.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	.021	.018	.012	.007		
6.0	.155	.094	.051	.133	.082	.044	.092	.057	.031	.053	.034	.019	.017	.011	.006		
7.0	.148	.087	.045	.127	.076	.039	.088	.053	.028	.051	.031	.017	.016	.010	.005		
8.0	.141	.082	.041	.122	.071	.035	.084	.050	.025	.049	.029	.015	.016	.010	.005		
9.0	.135	.077	.037	.117	.067	.032	.081	.047	.023	.047	.028	.014	.015	.009	.005		
10.0	.130	.072	.034	.112	.063	.030	.077	.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:2020-03-30

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:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm											
NAME: DS81202412NO						TYPE:			WEIGHT:		
SPEC.:DS81202412NO-9NWDA012WC0100						DIM.: 1000*12*1.5			SERIAL No.:01		
MFR.: COLORS						SUR.:1000*12			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	23.9	25.4	24.2	25.6	25.9	24.2	25.7	24.4	25.9	26.1	
	3H	25.2	26.6	25.5	26.9	27.2	25.6	27.0	26.0	27.3	
	4H	25.7	27.0	26.0	27.3	27.6	26.2	27.5	26.5	27.8	
	6H	25.9	27.1	26.2	27.4	27.7	26.5	27.8	26.9	28.1	
	8H	25.9	27.1	26.3	27.4	27.7	26.6	27.8	27.0	28.1	
	12H	25.9	27.0	26.3	27.4	27.7	26.6	27.8	27.0	28.1	
4H	2H	24.5	25.8	24.8	26.1	26.4	24.7	26.0	25.0	26.3	
	3H	26.0	27.1	26.4	27.5	27.8	26.3	27.5	26.7	27.8	
	4H	26.5	27.6	26.9	27.9	28.3	27.0	28.1	27.4	28.4	
	6H	26.8	27.8	27.2	28.1	28.5	27.4	28.4	27.8	28.7	
	8H	26.9	27.7	27.3	28.1	28.6	27.5	28.4	28.0	28.8	
	12H	26.9	27.7	27.3	28.1	28.5	27.6	28.4	28.0	28.8	
8H	4H	26.7	27.6	27.1	28.0	28.4	27.1	28.0	27.6	28.4	
	6H	27.1	27.8	27.6	28.3	28.7	27.7	28.4	28.1	28.8	
	8H	27.2	27.8	27.7	28.3	28.8	27.8	28.5	28.3	28.9	
	12H	27.2	27.8	27.7	28.3	28.8	27.9	28.5	28.4	28.9	
12H	4H	26.7	27.5	27.2	27.9	28.4	27.1	27.9	27.6	28.3	
	6H	27.1	27.8	27.6	28.2	28.7	27.7	28.3	28.2	28.8	
	8H	27.2	27.8	27.7	28.3	28.8	27.9	28.4	28.4	28.9	
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 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 893.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.4)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-03-30

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:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	Shielding Angle:

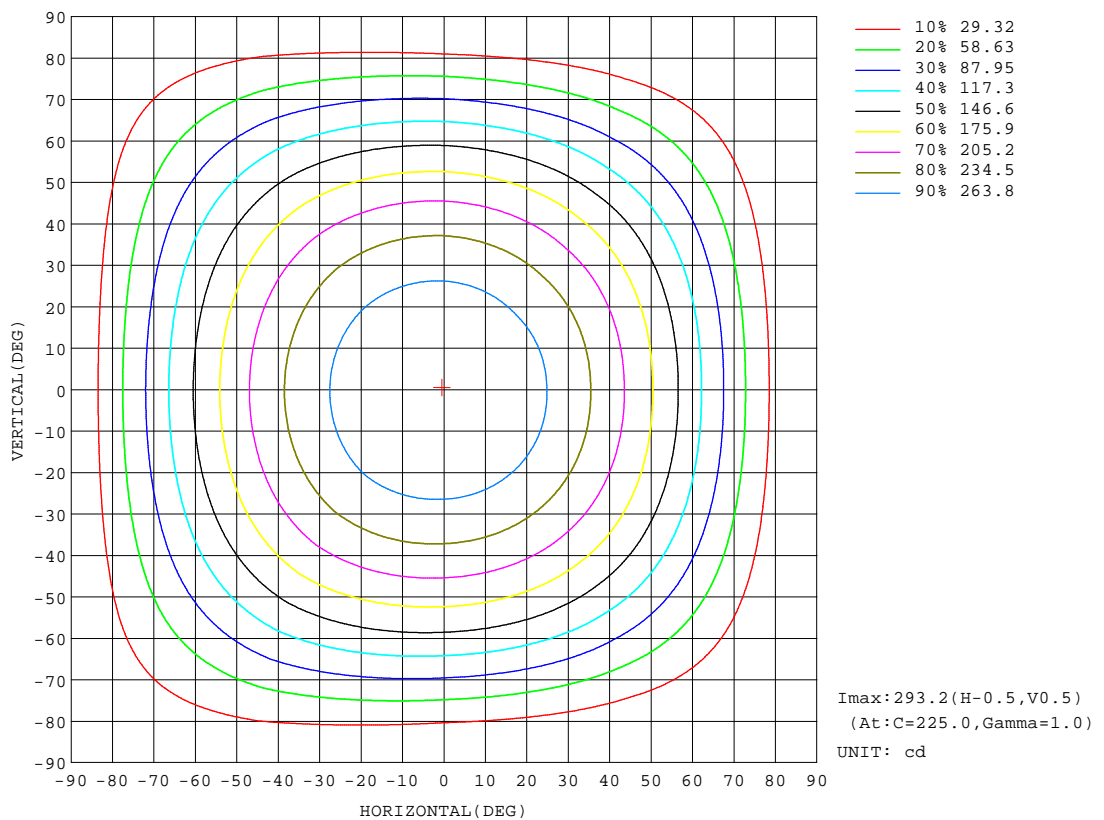
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	45	38	56	44	37	54	44	37	31
0.80	66	55	47	65	54	47	63	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:2020-03-30

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:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	Shielding Angle:



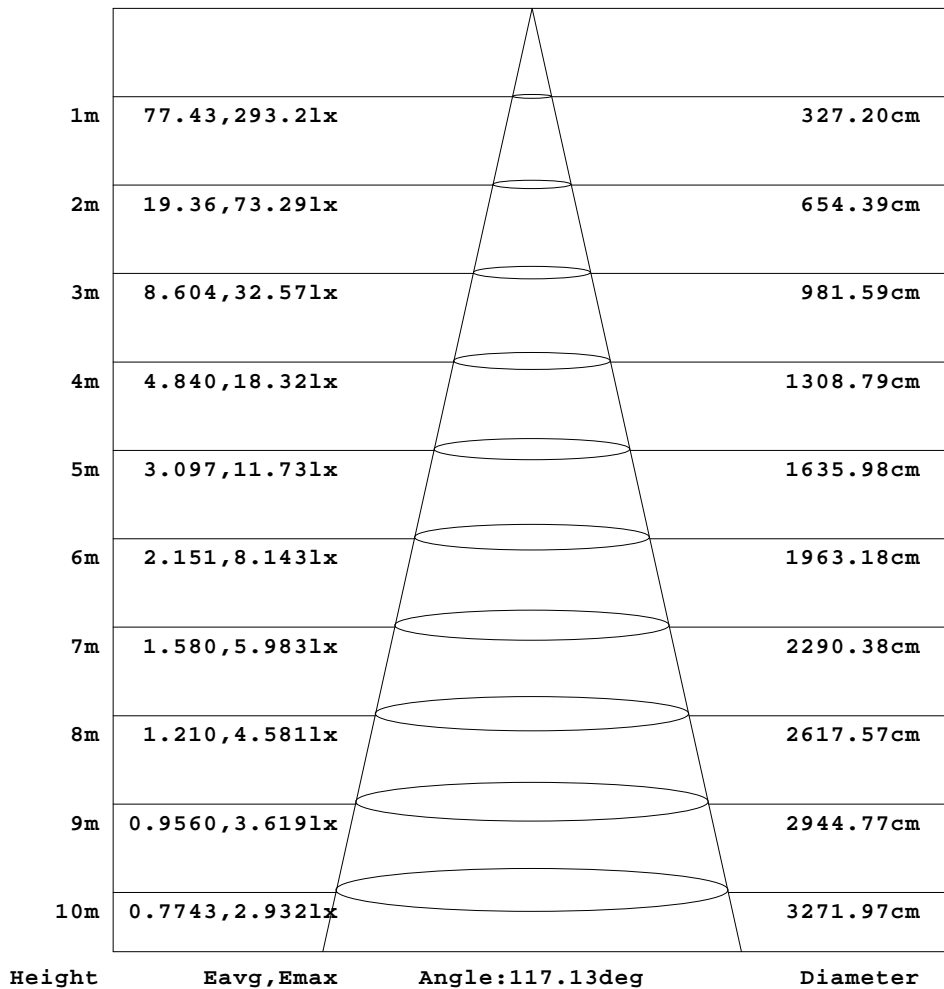
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-03-30

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:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	Shielding Angle:

Flux out:673.8 lm



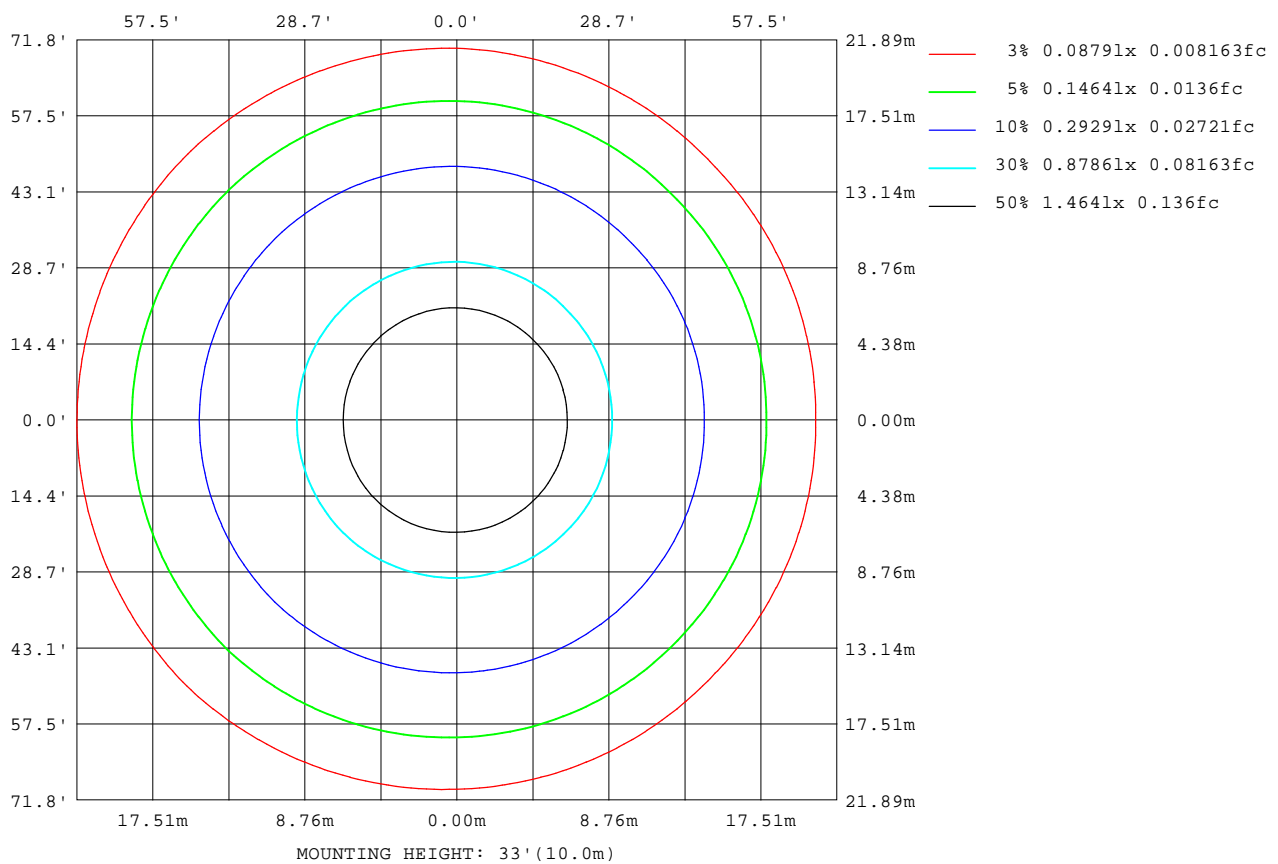
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2020-03-30

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

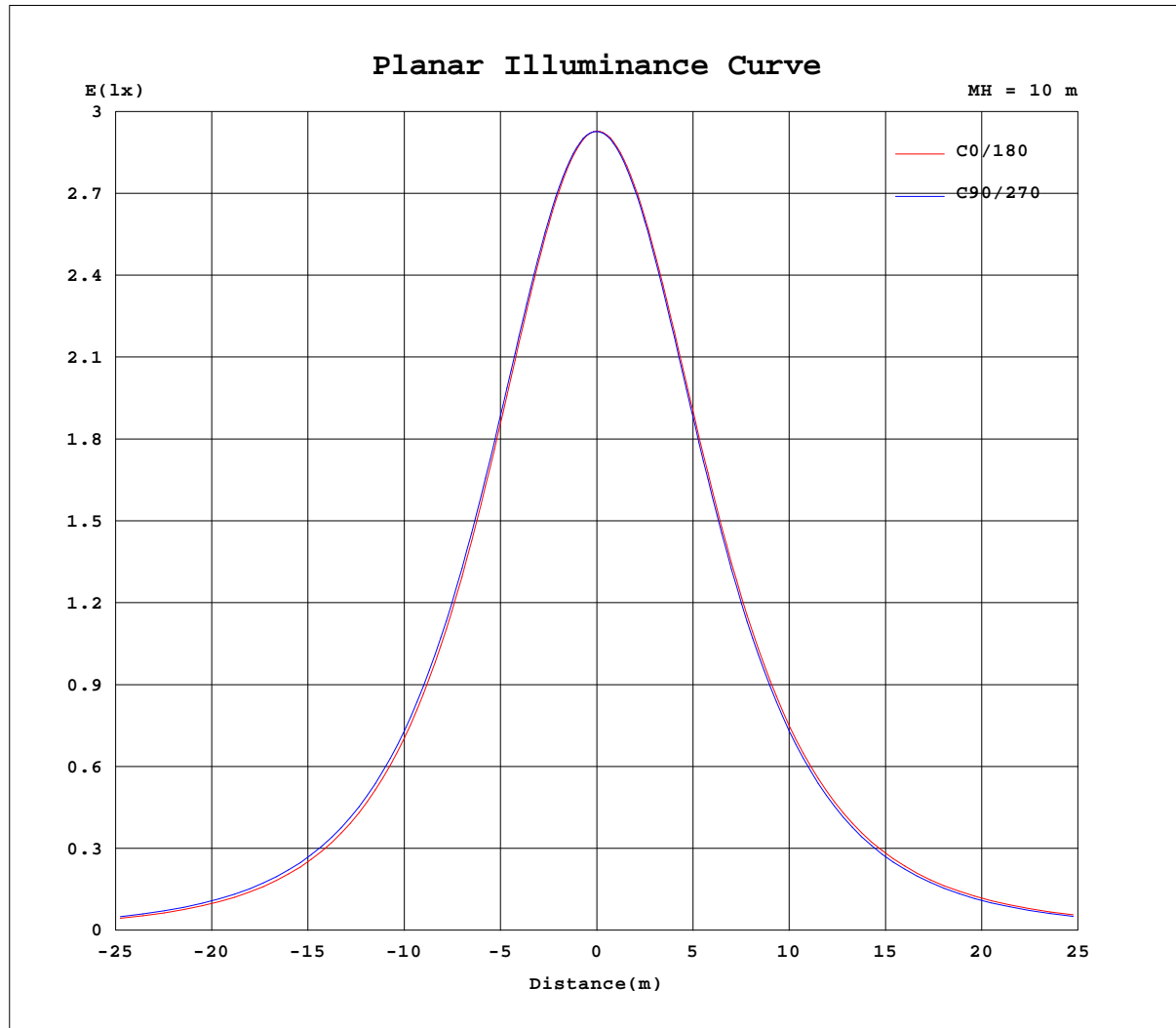
Test:U:24.00V I:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx 1m		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-03-30

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: 2020-03-30

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:0.3800A P:9.100W PF:1.000 Freq:0Hz Lamp Flux:893.01lx1 lm		
NAME: DS81202412NO	TYPE:	WEIGHT:
SPEC.:DS81202412NO-9NWDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:01
MFR.: COLORS	SUR.:1000*12	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	45	90	135	180	225	270	315										
0	293	293	293	293	293	293	293	293										
5	291	292	292	292	292	292	292	291										
10	288	289	289	290	290	290	289	288										
15	282	283	284	285	285	285	283	282										
20	274	275	277	279	278	278	276	274										
25	263	265	267	270	269	269	266	263										
30	251	253	255	259	258	257	255	251										
35	236	238	241	246	245	244	241	236										
40	219	221	225	230	230	229	225	219										
45	199	202	207	213	213	211	207	200										
50	178	181	186	194	193	192	187	179										
55	154	157	164	172	172	171	165	156										
60	129	132	139	149	149	147	141	131										
65	102	105	113	124	124	123	115	105										
70	74.1	77.1	85.6	97.2	98.7	96.8	88.7	77.3										
75	46.7	49.3	57.7	69.9	72.1	70.1	61.6	50.2										
80	22.7	24.5	31.2	43.3	46.0	44.1	34.3	25.5										
85	6.71	7.36	9.66	20.1	22.8	21.1	12.1	7.49										
90	1.19	1.42	1.03	5.20	6.85	5.75	0.60	0.84										
95	0.81	0.90	0.88	1.08	1.03	0.71	0.27	0.45										
100	1.04	1.08	0.87	0.88	0.50	0.46	0.50	0.71										
105	1.37	1.38	1.15	1.05	0.80	0.73	0.82	1.05										
110	1.73	1.74	1.58	1.30	1.14	1.03	1.15	1.39										
115	2.10	2.10	2.00	1.61	1.48	1.36	1.44	1.66										
120	2.45	2.47	2.37	1.91	1.79	1.67	1.73	1.89										
125	2.77	2.78	2.68	2.20	2.10	1.99	1.97	2.09										
130	3.06	3.03	2.99	2.50	2.42	2.29	2.21	2.32										
135	3.36	3.24	3.17	2.79	2.69	2.56	2.44	2.47										
140	3.59	3.41	3.36	3.05	2.92	2.88	2.60	2.63										
145	3.74	3.55	3.44	3.29	3.10	3.12	2.80	2.75										
150	3.91	3.66	3.60	3.51	3.31	3.39	3.11	2.90										
155	4.06	3.77	3.83	3.76	3.53	3.67	3.45	3.09										
160	4.27	3.90	4.05	3.97	3.73	3.95	3.79	3.41										
165	4.48	4.10	4.32	4.11	3.91	4.13	4.12	3.83										
170	4.49	4.42	4.58	4.32	3.90	4.35	4.45	4.29										
175	4.38	4.74	4.79	4.62	3.97	4.62	4.77	4.66										
180	4.36	5.02	5.02	4.92	4.35	5.02	5.03	4.93										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2020-03-30

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: