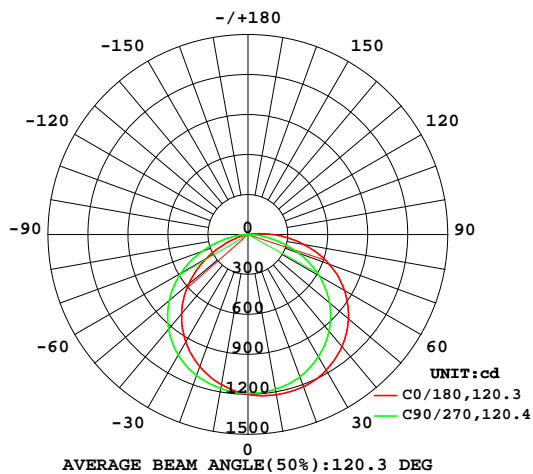


## LUMINAIRE PHOTOMETRIC TEST REPORT

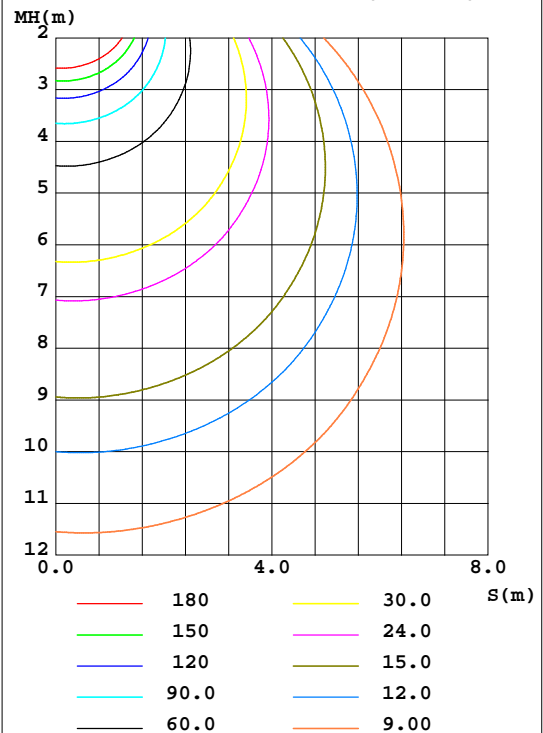
Test:U:24.00V I:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.3lx1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 152.81 lm/W			
MODEL	DS81922412NO	I <sub>max</sub> (cd)	1222	S/MH(C0/180)	1.17
NOMINAL POWER(W)	27	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	3820.3	h UP,DN(C0-180)	1.0,57.4
NOMINAL FLUX(lm)	3820.31	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.4,41.3
LAMPS INSIDE	1	h up(%)	1.3	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	h down(%)	98.7	CIBSE SHR MAX	1.35

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:2019-03-14

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:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

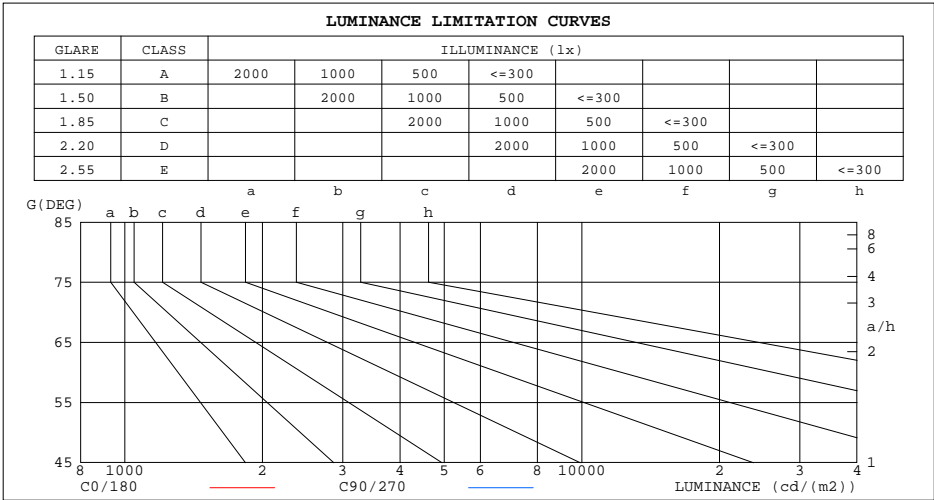
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	1221	1180	1145	1174					0~ 10	113.4	113.4	2.97,2.97
20	1216	1137	1056	1126					10~ 20	328.0	441.3	11.6,11.6
30	1176	1057	933.0	1045					20~ 30	506.3	947.7	24.8,24.8
40	1097	947.8	775.7	926.9					30~ 40	625.1	1573	41.2,41.2
50	984.4	799.2	583.3	773.6					40~ 50	667.6	2240	58.6,58.6
60	835.7	616.7	361.6	583.2					50~ 60	621.5	2862	74.9,74.9
70	646.7	400.0	140.2	362.2					60~ 70	489.6	3351	87.7,87.7
80	421.2	168.9	11.27	139.9					70~ 80	297.4	3649	95.5,95.5
90	185.0	11.25	2.680	4.090					80~ 90	120.9	3770	98.7,98.7
100	19.83	1.953	3.162	2.162					90~100	26.67	3796	99.4,99.4
110	2.309	2.787	4.087	2.995					100~110	3.657	3800	99.5,99.5
120	2.757	3.679	4.999	3.892					110~120	3.404	3803	99.6,99.6
130	3.531	4.579	5.738	4.781					120~130	3.801	3807	99.7,99.7
140	4.451	5.356	6.330	5.549					130~140	3.900	3811	99.8,99.8
150	5.314	6.061	6.828	6.160					140~150	3.617	3815	99.9,99.9
160	6.054	6.553	7.179	6.639					150~160	2.939	3818	99.9,99.9
170	6.655	6.881	7.254	6.950					160~170	1.916	3820	100,100
180	7.217	7.069	7.213	7.072					170~180	0.6695	3820	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:2019-03-14

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:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.31x1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



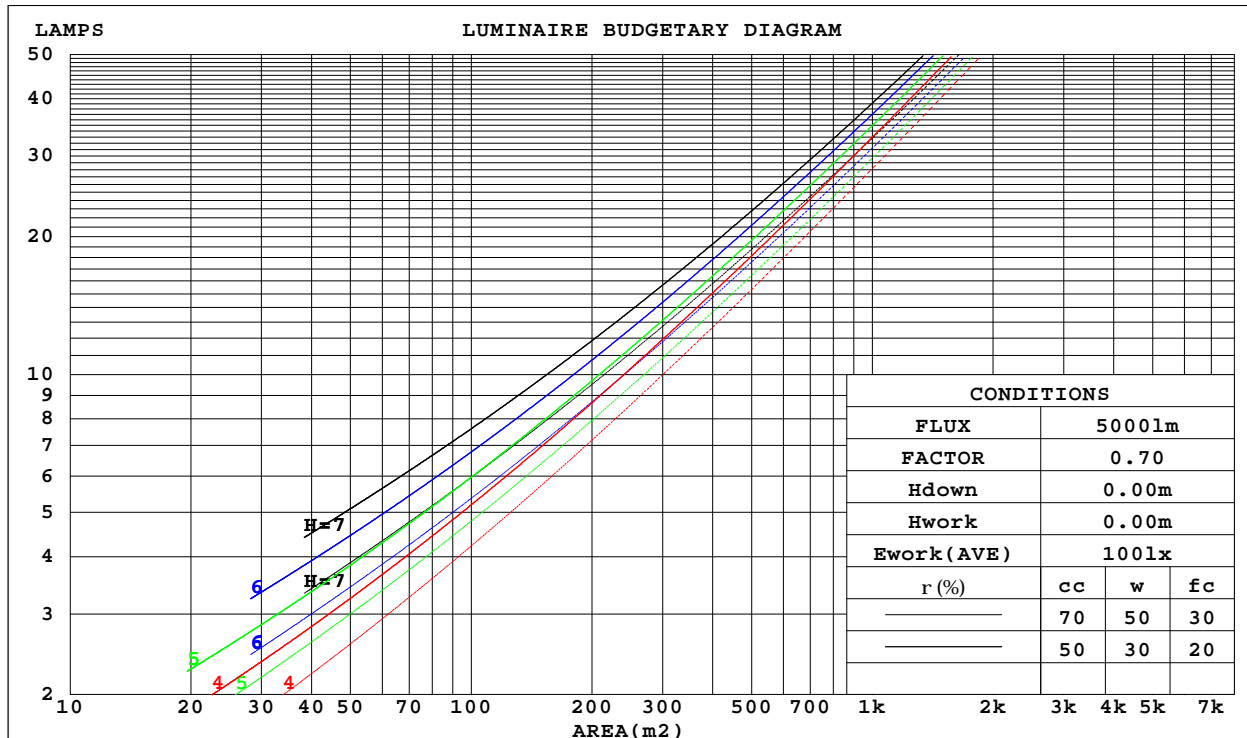
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-03-14

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.3lx1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

r <sub>cc</sub>	80%			70%			50%			30%			10%			0
r <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r <sub>fc</sub>	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	.99
1.0	1.02	.98	.94	1.00	.96	.92	.96	.92	.89	.91	.89	.86	.88	.85	.83	.81
2.0	.89	.82	.76	.87	.80	.75	.83	.77	.73	.79	.75	.71	.76	.72	.69	.67
3.0	.78	.69	.62	.76	.68	.62	.73	.66	.60	.70	.64	.59	.67	.62	.58	.56
4.0	.68	.59	.52	.67	.59	.52	.64	.57	.51	.62	.55	.50	.59	.54	.49	.47
5.0	.61	.52	.45	.60	.51	.45	.57	.50	.44	.55	.49	.43	.53	.47	.43	.40
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.38	.50	.43	.38	.48	.42	.37	.35
7.0	.50	.41	.34	.49	.40	.34	.47	.39	.34	.45	.38	.33	.44	.38	.33	.31
8.0	.45	.36	.30	.44	.36	.30	.43	.35	.30	.42	.35	.30	.40	.34	.29	.27
9.0	.41	.33	.27	.41	.33	.27	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25
10.0	.38	.30	.25	.37	.30	.25	.36	.29	.24	.35	.29	.24	.34	.28	.24	.22



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-03-14

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:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.3lx1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
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	.330	.188	.059	.323	.184	.058	.308	.177	.057	.295	.170	.055	.284	.164	.053	
2.0	.305	.167	.051	.298	.164	.051	.286	.159	.049	.274	.154	.048	.263	.149	.047	
3.0	.279	.149	.045	.274	.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	.223	.121	.037	
5.0	.236	.120	.035	.231	.119	.035	.223	.116	.034	.214	.113	.034	.207	.110	.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	.185	.091	.026	.179	.089	.026	.173	.088	.025	.168	.086	.025	
9.0	.177	.085	.024	.174	.085	.024	.168	.083	.024	.163	.081	.023	.157	.080	.023	
10.0	.166	.080	.022	.163	.079	.022	.158	.077	.022	.153	.076	.022	.148	.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	.201	.201	.201	.171	.171	.171	.117	.117	.117	.067	.067	.067	.021	.021	.021	
1.0	.192	.166	.143	.164	.143	.123	.112	.098	.085	.065	.057	.049	.021	.018	.016	
2.0	.184	.142	.107	.158	.122	.092	.108	.085	.064	.062	.049	.038	.020	.016	.012	
3.0	.177	.125	.083	.151	.108	.072	.104	.075	.051	.060	.044	.030	.019	.014	.010	
4.0	.169	.111	.068	.145	.096	.059	.100	.067	.041	.058	.039	.024	.019	.013	.008	
5.0	.161	.101	.057	.139	.088	.049	.096	.061	.035	.055	.036	.021	.018	.012	.007	
6.0	.154	.093	.049	.133	.080	.043	.091	.056	.030	.053	.033	.018	.017	.011	.006	
7.0	.147	.086	.043	.127	.075	.038	.088	.052	.027	.051	.031	.016	.016	.010	.005	
8.0	.141	.080	.039	.121	.070	.034	.084	.049	.024	.049	.029	.014	.016	.009	.005	
9.0	.134	.075	.035	.116	.065	.031	.080	.046	.022	.047	.027	.013	.015	.009	.004	
10.0	.129	.071	.033	.111	.062	.029	.077	.043	.020	.045	.026	.012	.015	.008	.004	

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-03-14

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:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.3lx1 lm										
NAME: DS81922412NO					TYPE:			WEIGHT:		
SPEC.:DS81922412NO-8NWSDA012WC0100					DIM.: 1000*12*1.5			SERIAL No.:		
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	25.9	27.5	26.2	27.7	27.9	24.8	26.4	25.1	26.6	26.8
3H	28.2	29.6	28.5	29.9	30.1	26.5	27.9	26.8	28.2	28.5
4H	29.3	30.7	29.6	30.9	31.2	27.2	28.5	27.5	28.8	29.1
6H	30.4	31.7	30.7	31.9	32.3	27.6	28.9	28.0	29.2	29.5
8H	30.9	32.1	31.3	32.4	32.8	27.8	29.0	28.2	29.3	29.7
12H	31.4	32.6	31.8	32.9	33.3	27.9	29.1	28.3	29.4	29.7
4H 2H	26.6	27.9	26.9	28.2	28.5	25.7	27.1	26.1	27.4	27.7
3H	29.0	30.2	29.4	30.5	30.8	27.6	28.8	28.0	29.1	29.5
4H	30.2	31.3	30.6	31.7	32.1	28.4	29.5	28.8	29.9	30.2
6H	31.5	32.5	31.9	32.8	33.2	29.1	30.0	29.5	30.4	30.8
8H	32.1	33.0	32.6	33.4	33.8	29.3	30.2	29.7	30.6	31.0
12H	32.8	33.6	33.2	34.0	34.5	29.4	30.3	29.9	30.7	31.1
8H 4H	30.5	31.5	31.0	31.9	32.3	29.0	29.9	29.4	30.3	30.7
6H	32.0	32.8	32.5	33.2	33.7	29.9	30.6	30.3	31.0	31.5
8H	32.8	33.5	33.3	33.9	34.4	30.2	30.9	30.7	31.3	31.8
12H	33.6	34.2	34.1	34.7	35.2	30.5	31.1	31.0	31.5	32.0
12H 4H	30.6	31.4	31.0	31.8	32.3	29.1	30.0	29.6	30.4	30.8
6H	32.1	32.8	32.6	33.2	33.7	30.1	30.8	30.6	31.2	31.7
8H	32.9	33.5	33.4	34.0	34.5	30.5	31.1	31.0	31.6	32.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.5				

CIE Pub.117, 3820 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 4.7)

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-03-14

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:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.3lx1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

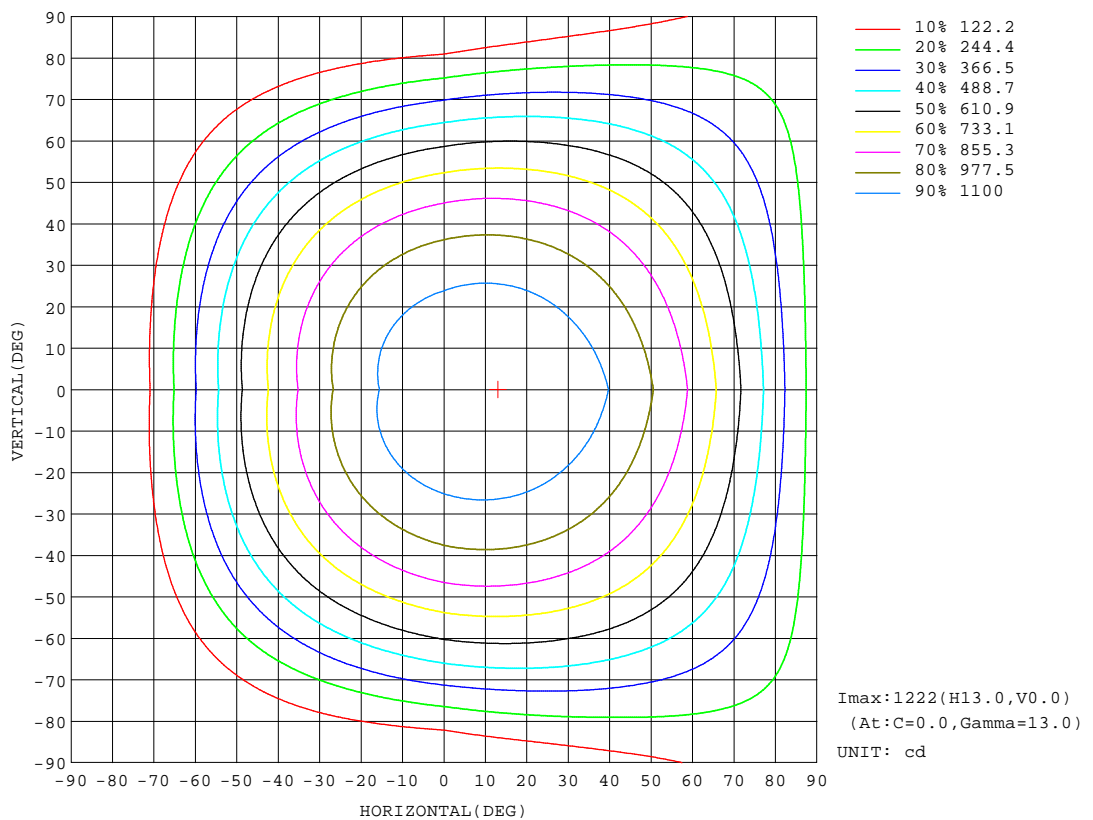
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	55	44	36	55	43	36	53	43	36	30
0.80	65	53	46	64	53	46	62	52	45	38
1.00	74	62	55	73	62	54	70	63	54	46
1.25	81	70	63	79	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	76	87	80	75	66
2.50	97	89	82	95	87	81	91	85	80	71
3.00	101	93	87	98	92	86	94	89	84	75
4.00	105	99	94	102	97	92	98	93	89	80
5.00	107	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:2019-03-14

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:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.31x1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-03-14

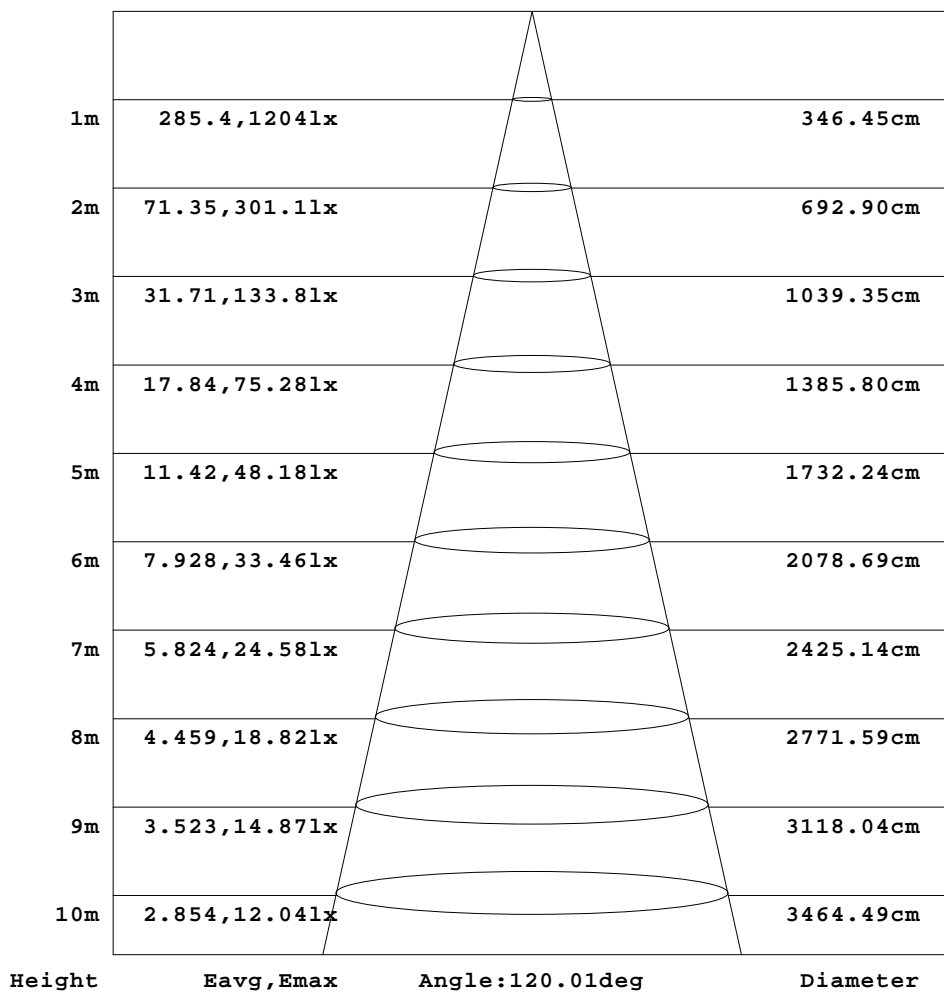
Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:24.00V I:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.31x1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Flux out:2918 lm



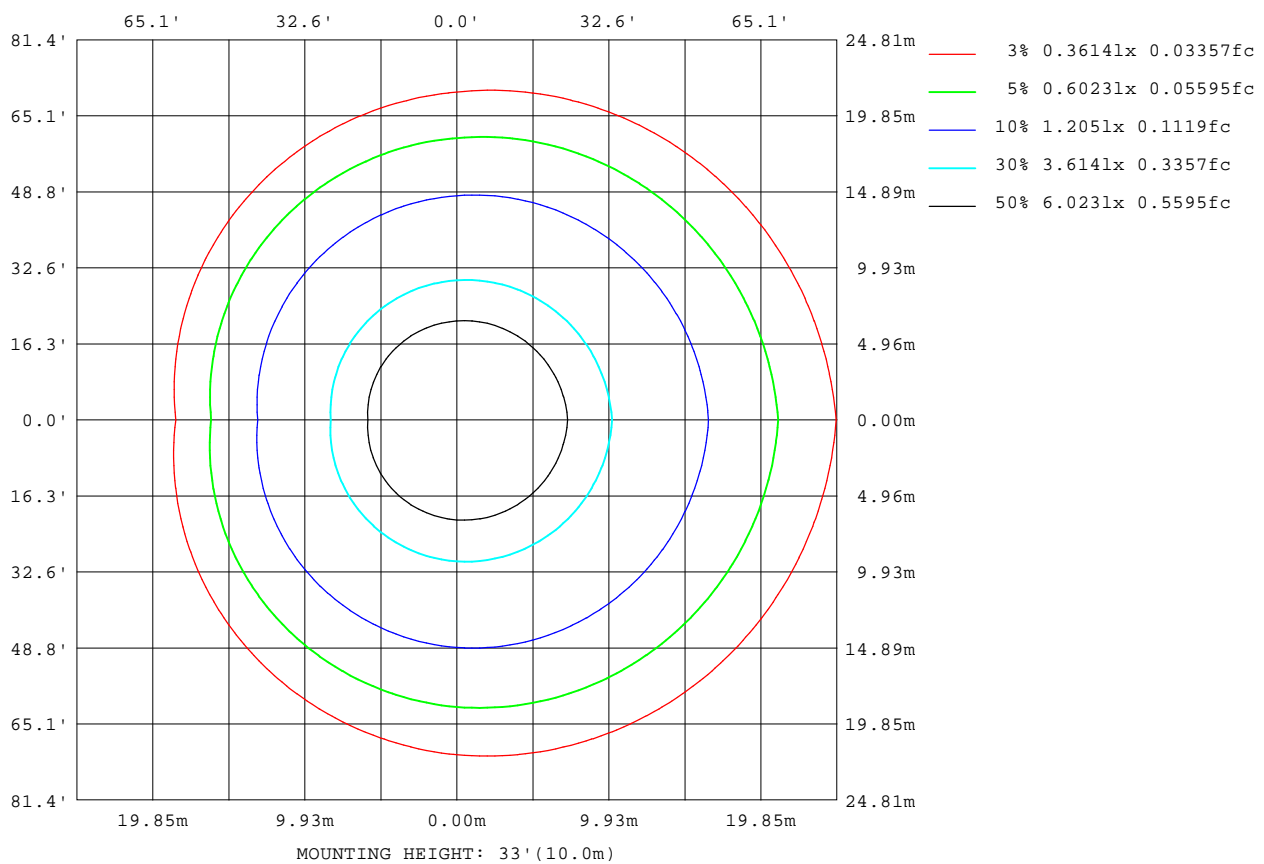
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: COLORS  
 Test Date: 2019-03-14

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:

### ISOLUX DIAGRAM

Test:U:24.00V I:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.3lx1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-03-14

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:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.31x1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

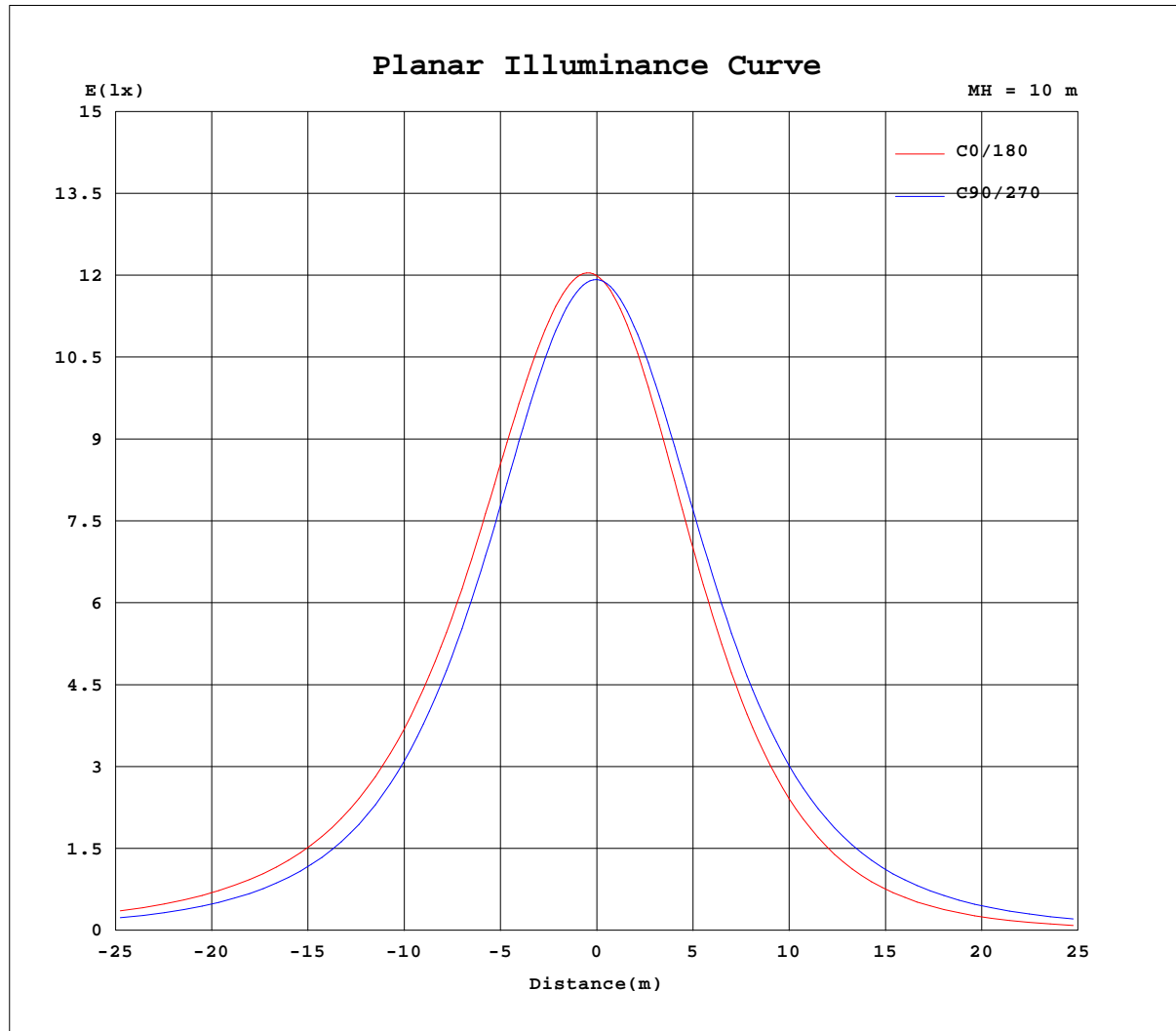
AvgL	cd/m2
L_0~180(65)av	98063
L_0~180(75)av	95433
L_0~180(85)av	145665
L_90~270(65)av	97179
L_90~270(75)av	84696
L_90~270(85)av	60335
L_45(65)av	94431
L_45(75)av	83866
L_45(85)av	83425

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-03-14

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: 2019-03-14

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:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:1.040A P:25.00W PF:0 Freq:0Hz Lamp Flux:3820.31x1 lm		
NAME: DS81922412NO	TYPE:	WEIGHT:
SPEC.:DS81922412NO-8NWSDA012WC0100	DIM.: 1000*12*1.5	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	1200	1192	1200	1192															
5	1214	1190	1176	1187															
10	1221	1180	1145	1174															
15	1221	1163	1105	1154															
20	1216	1137	1056	1126															
25	1201	1101	999	1090															
30	1176	1057	933	1045															
35	1139	1007	859	991															
40	1097	948	776	927															
45	1045	879	684	855															
50	984	799	583	774															
55	914	712	475	682															
60	836	617	362	583															
65	747	511	247	475															
70	647	400	140	362															
75	538	278	55.1	248															
80	421	169	11.3	140															
85	301	73.0	3.26	53.2															
90	185	11.2	2.68	4.09															
95	84.7	1.83	2.96	1.75															
100	19.8	1.95	3.16	2.16															
105	2.63	2.37	3.61	2.59															
110	2.31	2.79	4.09	3.00															
115	2.51	3.23	4.57	3.44															
120	2.76	3.68	5.00	3.89															
125	3.11	4.13	5.39	4.34															
130	3.53	4.58	5.74	4.78															
135	3.99	4.98	6.04	5.17															
140	4.45	5.36	6.33	5.55															
145	4.91	5.74	6.59	5.86															
150	5.31	6.06	6.83	6.16															
155	5.69	6.34	7.03	6.44															
160	6.05	6.55	7.18	6.64															
165	6.34	6.74	7.25	6.80															
170	6.66	6.88	7.25	6.95															
175	6.96	7.00	7.25	7.02															
180	7.22	7.07	7.21	7.07															

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-03-14

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: