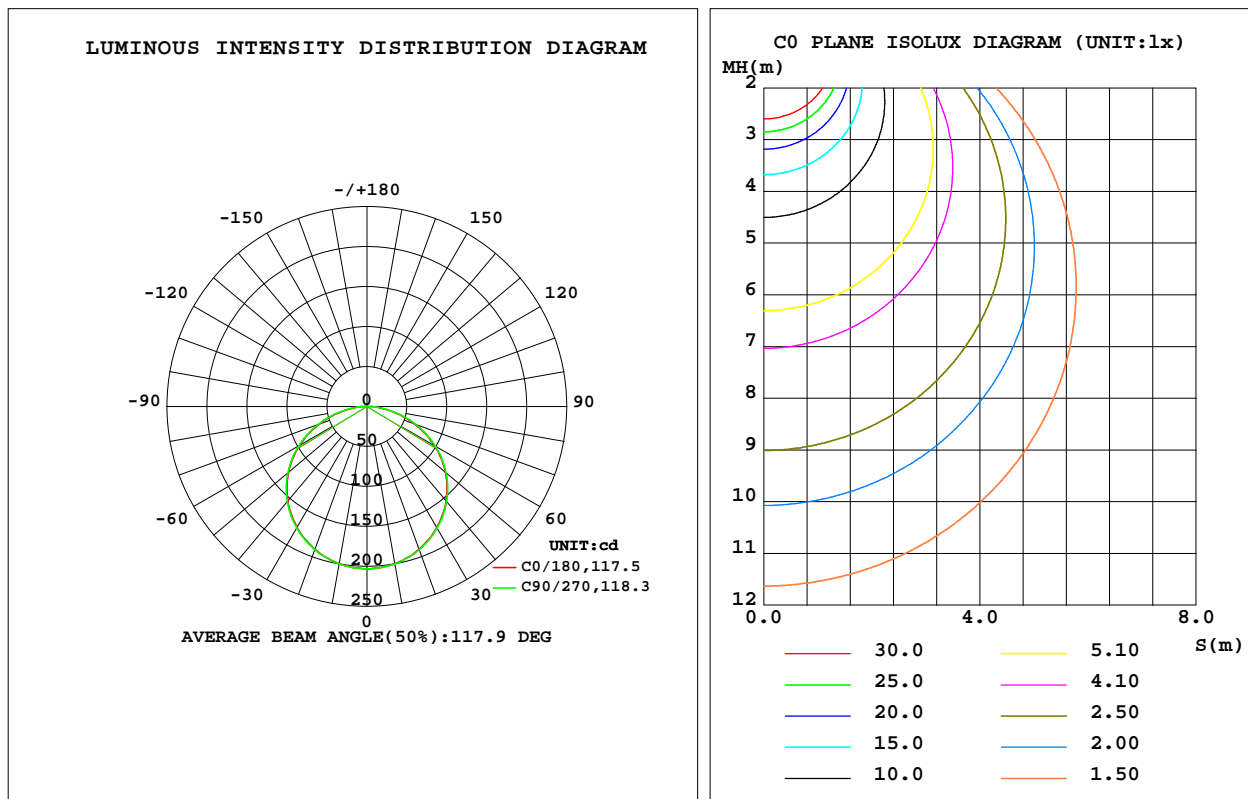


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.00V I:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 43.02 lm/W			
MODEL	ALS-LR2013FDXSS1000	I _{max} (cd)	203.0	S/MH(C0/180)	1.28
NOMINAL POWER(W)	15	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	620.79	h UP,DN(C0-180)	0.3,49.7
NOMINAL FLUX(lm)	620.789	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.3,49.7
LAMPS INSIDE	1	h up(%)	0.6	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	h down(%)	99.4	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2018-10-16

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:

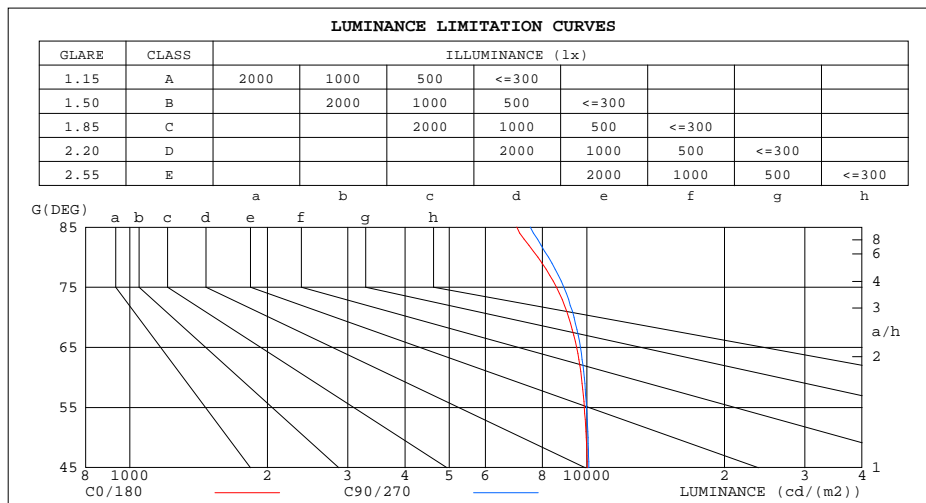
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	199.6	200.0	199.6	200.0					0- 10	19.22	19.22	3.1,3.1
20	190.2	190.7	190.2	190.7					10- 20	55.32	74.54	12,12
30	174.9	175.6	174.9	175.6					20- 30	84.62	159.2	25.6,25.6
40	154.1	155.1	154.1	155.1					30- 40	103.6	262.8	42.3,42.3
50	128.2	129.3	128.2	129.3					40- 50	109.8	372.5	60,60
60	97.32	98.69	97.32	98.69					50- 60	101.8	474.3	76.4,76.4
70	62.45	64.12	62.45	64.12					60- 70	80.08	554.4	89.3,89.3
80	27.15	28.64	27.15	28.64					70- 80	47.85	602.2	97,97
90	2.014	2.265	2.014	2.265					80- 90	14.66	616.9	99.4,99.4
100	0.2758	0.2867	0.2758	0.2867					90-100	0.4318	617.3	99.4,99.4
110	0.4137	0.4355	0.4137	0.4355					100-110	0.3736	617.7	99.5,99.5
120	0.5641	0.5781	0.5641	0.5781					110-120	0.4929	618.2	99.6,99.6
130	0.7160	0.7112	0.7160	0.7112					120-130	0.5769	618.8	99.7,99.7
140	0.8537	0.8304	0.8537	0.8304					130-140	0.6019	619.4	99.8,99.8
150	0.9483	0.9291	0.9483	0.9291					140-150	0.5563	619.9	99.9,99.9
160	1.017	0.9954	1.017	0.9954					150-160	0.4524	620.4	99.9,99.9
170	1.068	1.049	1.068	1.049					160-170	0.2940	620.7	100,100
180	1.092	1.076	1.092	1.076					170-180	0.1017	620.8	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:2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	Shielding Angle:



LUMINANCE cd/(m2)		
G(180)	C0/180	C90/270
85	7023	7517
80	7817	8247
75	8584	8908
70	9130	9374
65	9495	9679
60	9732	9869
55	9879	9988
50	9973	10061
45	10026	10098

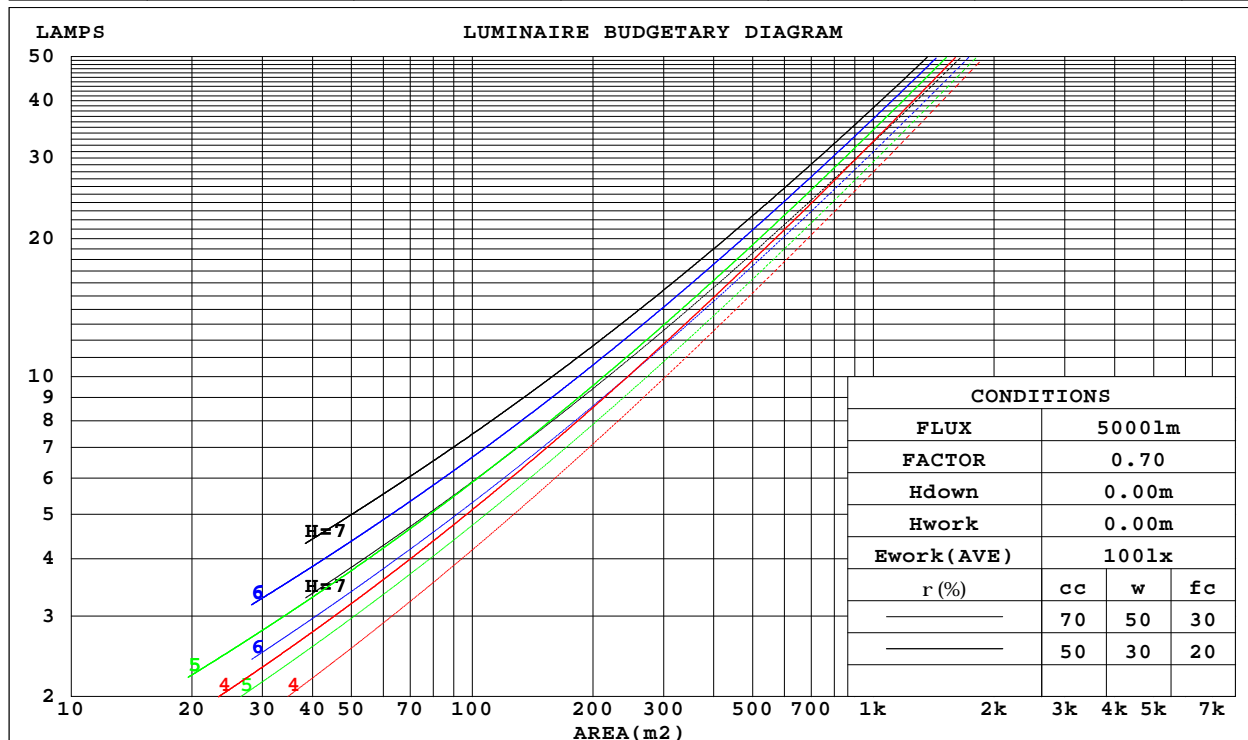
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	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:2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	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	.321	.183	.058	.314	.179	.057	.300	.172	.055	.287	.166	.053	.276	.160	.052	
2.0	.300	.164	.050	.293	.162	.050	.281	.156	.049	.270	.152	.047	.260	.147	.046	
3.0	.276	.147	.044	.271	.145	.044	.260	.141	.043	.250	.137	.042	.241	.133	.041	
4.0	.254	.132	.039	.249	.130	.039	.239	.127	.038	.231	.124	.037	.222	.121	.037	
5.0	.234	.119	.035	.230	.118	.034	.221	.115	.034	.213	.113	.033	.206	.110	.033	
6.0	.217	.109	.031	.213	.108	.031	.205	.105	.031	.198	.103	.030	.192	.101	.030	
7.0	.201	.100	.028	.198	.099	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.188	.092	.026	.185	.091	.026	.179	.089	.025	.173	.088	.025	.168	.086	.025	
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.023	.162	.081	.023	.158	.080	.023	
10.0	.165	.079	.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	.195	.195	.195	.167	.167	.167	.114	.114	.114	.065	.065	.065	.021	.021	.021		
1.0	.186	.161	.138	.159	.138	.119	.109	.095	.082	.063	.055	.048	.020	.018	.015		
2.0	.178	.137	.102	.153	.118	.088	.105	.081	.061	.060	.047	.036	.019	.015	.012		
3.0	.171	.119	.078	.146	.103	.068	.100	.071	.048	.058	.042	.028	.019	.014	.009		
4.0	.163	.106	.062	.140	.092	.054	.096	.064	.038	.056	.037	.023	.018	.012	.007		
5.0	.155	.096	.051	.134	.083	.045	.092	.058	.032	.053	.034	.019	.017	.011	.006		
6.0	.148	.087	.044	.127	.076	.038	.088	.053	.027	.051	.031	.016	.016	.010	.005		
7.0	.141	.080	.038	.122	.070	.033	.084	.049	.023	.049	.029	.014	.016	.009	.005		
8.0	.135	.075	.033	.116	.065	.029	.080	.045	.021	.047	.027	.012	.015	.009	.004		
9.0	.129	.070	.030	.111	.061	.026	.077	.043	.019	.045	.025	.011	.014	.008	.004		
10.0	.123	.065	.027	.106	.057	.024	.073	.040	.017	.043	.024	.010	.014	.008	.003		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm											
NAME: ALS-LR2013FDXSS1000					TYPE:			WEIGHT:			
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC					DIM.: 1008*20*13mm			SERIAL No.:01			
MFR.: Colors					SUR.:1008*20			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	22.5	24.1	22.8	24.3	24.5	22.6	24.1	22.9	24.3	24.5	
	3H	24.1	25.6	24.4	25.8	26.1	24.2	25.6	24.5	25.9	26.1
	4H	24.8	26.1	25.1	26.4	26.7	24.9	26.3	25.2	26.5	26.8
	6H	25.3	26.5	25.6	26.8	27.1	25.4	26.7	25.7	27.0	27.3
	8H	25.4	26.7	25.8	27.0	27.3	25.6	26.8	25.9	27.1	27.4
	12H	25.5	26.7	25.9	27.0	27.3	25.7	26.9	26.0	27.2	27.5
4H	2H	23.2	24.5	23.5	24.8	25.1	23.2	24.6	23.5	24.8	25.1
	3H	25.0	26.2	25.3	26.5	26.8	25.0	26.2	25.4	26.5	26.9
	4H	25.8	26.8	26.1	27.2	27.5	25.8	26.9	26.2	27.3	27.6
	6H	26.4	27.3	26.8	27.7	28.1	26.5	27.5	26.9	27.8	28.2
	8H	26.6	27.5	27.0	27.9	28.3	26.7	27.6	27.1	28.0	28.4
	12H	26.7	27.5	27.2	27.9	28.4	26.9	27.7	27.3	28.1	28.5
8H	4H	26.1	27.0	26.5	27.3	27.7	26.1	27.0	26.6	27.4	27.8
	6H	26.8	27.6	27.3	28.0	28.4	26.9	27.7	27.4	28.1	28.5
	8H	27.1	27.8	27.6	28.2	28.7	27.2	27.9	27.7	28.4	28.8
	12H	27.3	27.9	27.8	28.4	28.9	27.5	28.1	28.0	28.5	29.0
12H	4H	26.1	26.9	26.5	27.3	27.7	26.2	27.0	26.6	27.4	27.8
	6H	26.9	27.6	27.4	28.0	28.5	27.0	27.7	27.5	28.1	28.6
	8H	27.2	27.8	27.7	28.3	28.8	27.4	27.9	27.8	28.4	28.9
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.1 / - 0.3					+ 0.1 / - 0.3					

CIE Pub.117, 620.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.7)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	Shielding Angle:

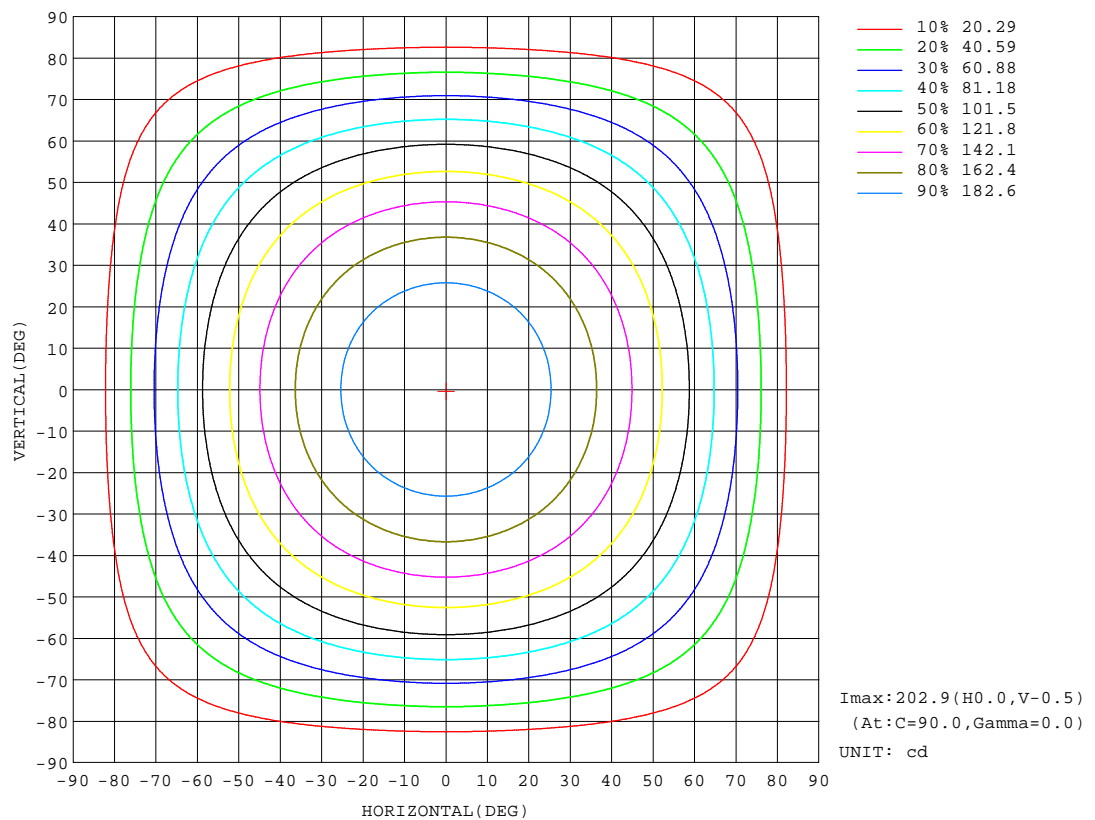
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	44	37	54	44	37	30
0.80	66	54	47	65	54	47	63	53	46	39
1.00	75	63	56	73	63	55	71	64	55	48
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	86	81	72
3.00	101	94	89	99	93	87	95	90	85	76
4.00	106	100	95	103	98	93	99	94	91	81
5.00	108	103	99	106	101	97	101	97	94	85
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:2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	Shielding Angle:



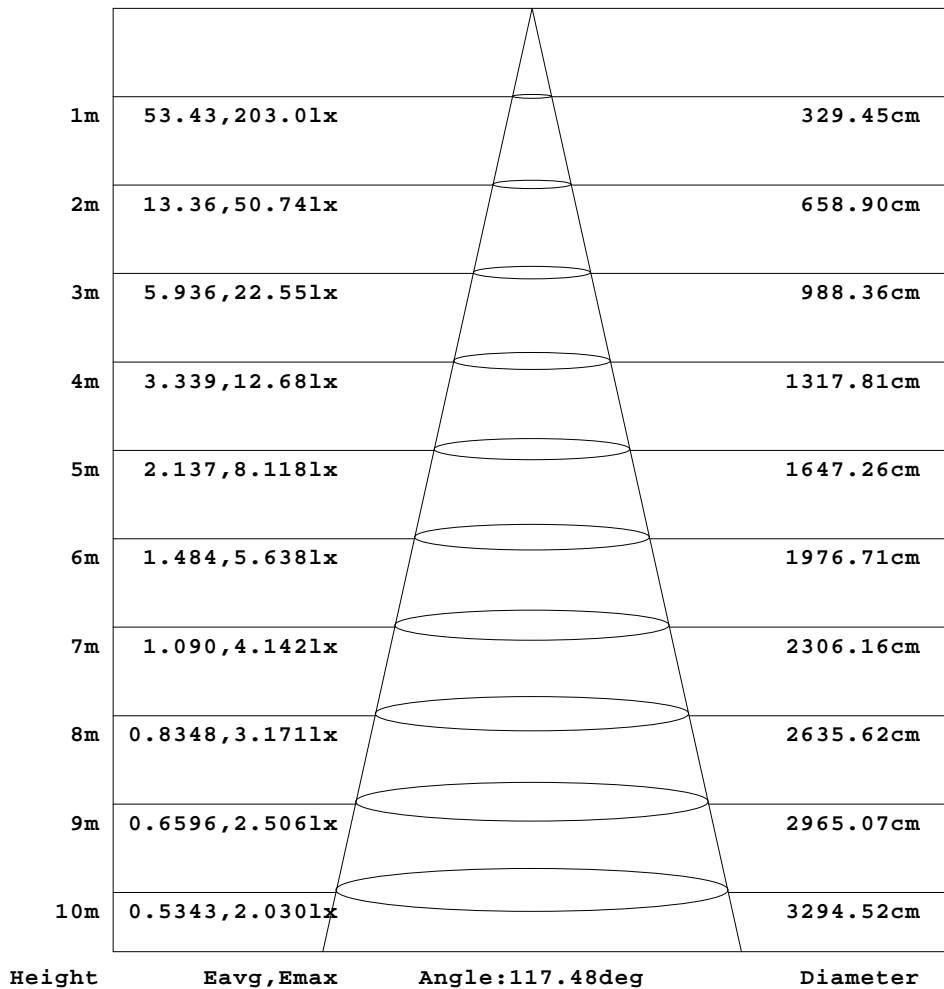
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	Shielding Angle:

Flux out:464.9 lm



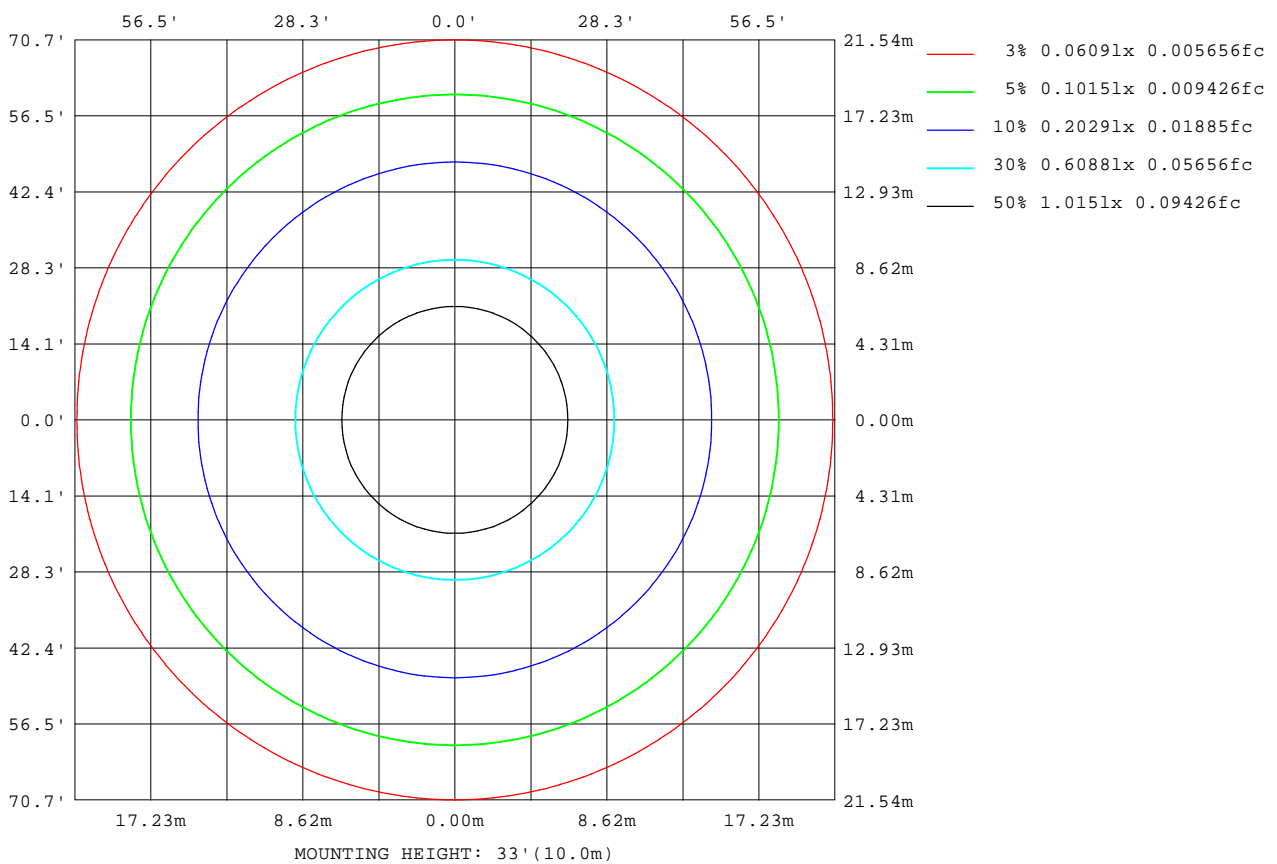
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: COLORS
 Test Date: 2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	Shielding Angle:

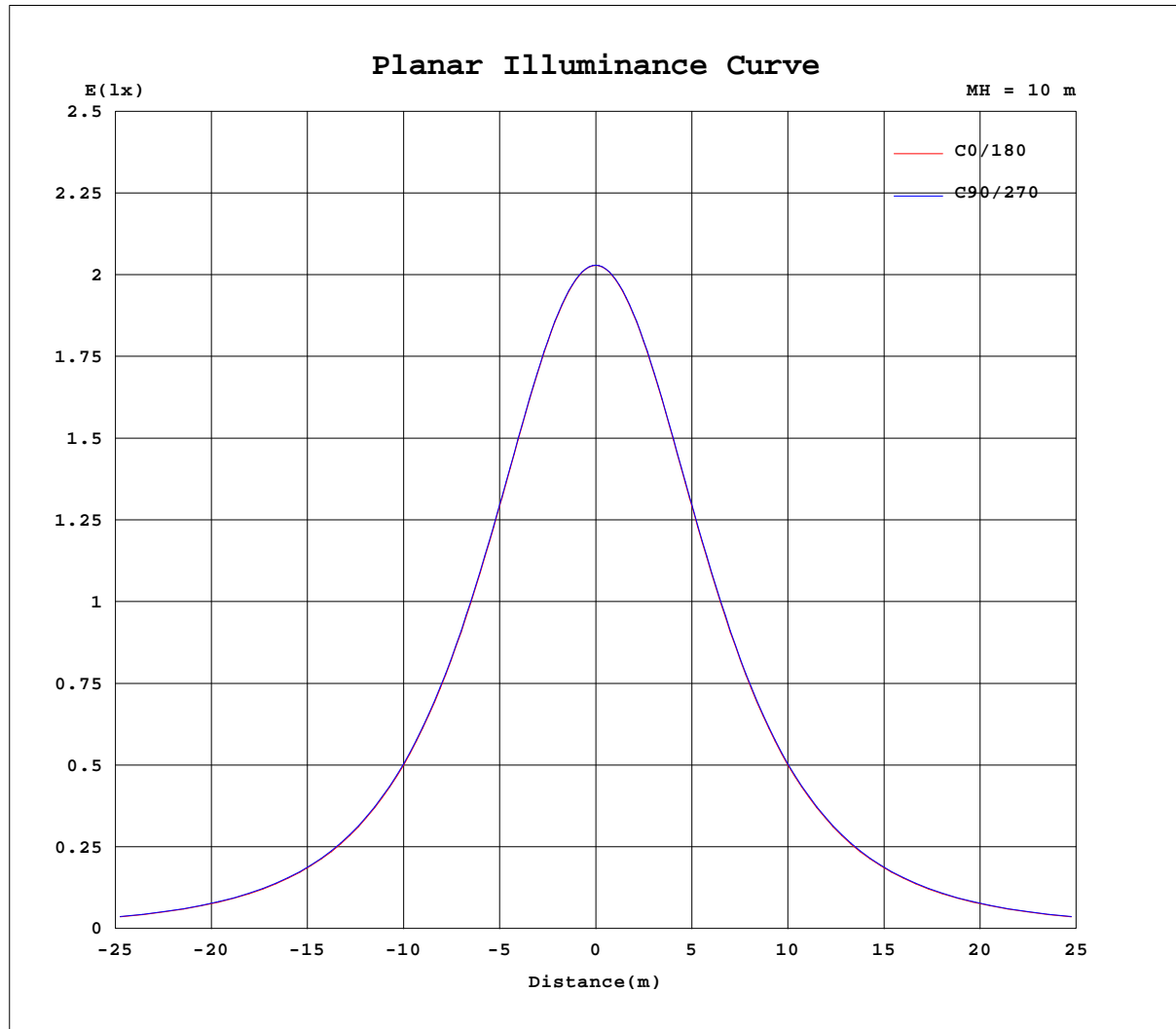
AvgL	cd/m2
L_0~180(65)av	9495
L_0~180(75)av	8584
L_0~180(85)av	7023
L_90~270(65)av	9679
L_90~270(75)av	8908
L_90~270(85)av	7517
L_45(65)av	9610
L_45(75)av	8786
L_45(85)av	7332

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2018-10-16

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: 2018-10-16

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:0.6000A P:14.43W PF:1.000 Freq:0Hz Lamp Flux:620.789x1 lm		
NAME: ALS-LR2013FDXSS1000	TYPE:	WEIGHT:
SPEC.:ALS-LR2013FDXSS1000-F15NW9X-BC	DIM.: 1008*20*13mm	SERIAL No.:01
MFR.: Colors	SUR.:1008*20	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	203	203	203	203															
5	202	202	202	202															
10	200	200	200	200															
15	196	196	196	196															
20	190	191	190	191															
25	183	184	183	184															
30	175	176	175	176															
35	165	166	165	166															
40	154	155	154	155															
45	142	143	142	143															
50	128	129	128	129															
55	113	115	113	115															
60	97.3	98.7	97.3	98.7															
65	80.3	81.8	80.3	81.8															
70	62.5	64.1	62.5	64.1															
75	44.4	46.1	44.4	46.1															
80	27.1	28.6	27.1	28.6															
85	12.2	13.1	12.2	13.1															
90	2.01	2.26	2.01	2.26															
95	0.24	0.22	0.24	0.22															
100	0.28	0.29	0.28	0.29															
105	0.36	0.35	0.36	0.35															
110	0.41	0.44	0.41	0.44															
115	0.49	0.50	0.49	0.50															
120	0.56	0.58	0.56	0.58															
125	0.65	0.65	0.65	0.65															
130	0.72	0.71	0.72	0.71															
135	0.79	0.77	0.79	0.77															
140	0.85	0.83	0.85	0.83															
145	0.90	0.88	0.90	0.88															
150	0.95	0.93	0.95	0.93															
155	0.99	0.98	0.99	0.98															
160	1.02	1.00	1.02	1.00															
165	1.06	1.03	1.06	1.03															
170	1.07	1.05	1.07	1.05															
175	1.07	1.06	1.07	1.06															
180	1.09	1.08	1.09	1.08															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2018-10-16

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: