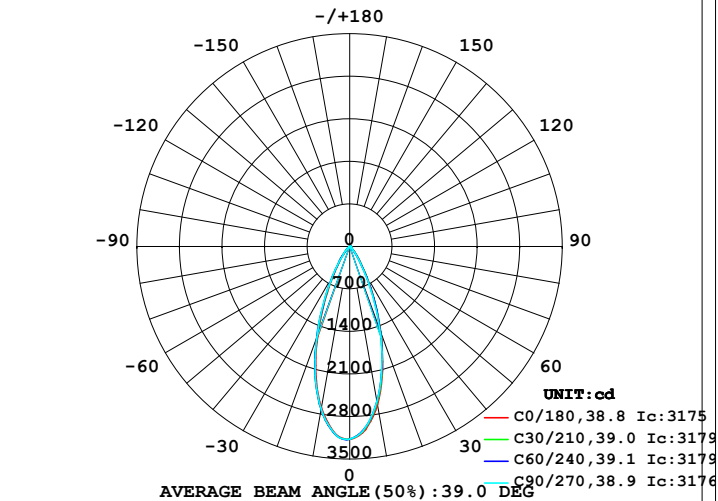


LUMINAIRE PHOTOMETRIC TEST REPORT

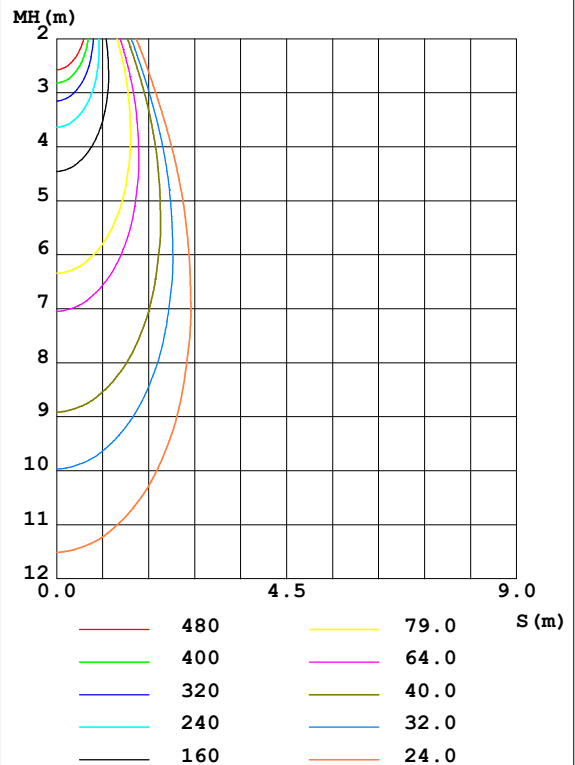
Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm					
NAME: ALS70-20G30-40			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:60		Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 76.73 lm/W
MODEL	3000K CRI90	I _{max} (cd)	3179	S/MH (C0/180)	0.63	
NOMINAL POWER (W)	20.3	LOR (%)	100.0	S/MH (C90/270)	0.65	
RATED VOLTAGE (V)	220-240	TOTAL FLUX (lm)	1565.3	η UP, DN (C0-180)	0.0, 48.7	
NOMINAL FLUX (lm)	1565.34	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 51.3	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.65	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: AE
 Test Date: 2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 7.240m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2640	2612	2587	2634	2695	2699	2715	2680	0- 10	277.5	277.5	17.7,17.7
20	1499	1507	1460	1477	1530	1564	1582	1543	10- 20	581.5	859.0	54.9,54.9
30	530.7	524.3	479.4	490.8	526.1	550.3	574.0	554.0	20- 30	439.4	1298	82.9,82.9
40	147.3	141.7	128.8	131.1	139.6	146.1	149.2	147.5	30- 40	179.9	1478	94.4,94.4
50	38.15	35.30	31.71	32.44	35.83	37.39	39.57	38.43	40- 50	57.90	1536	98.1,98.1
60	10.59	9.744	8.936	9.779	10.70	10.44	11.19	11.03	50- 60	18.47	1555	99.3,99.3
70	4.818	4.397	4.196	4.469	4.680	4.509	5.037	5.052	60- 70	6.742	1561	99.7,99.7
80	1.288	1.147	1.064	1.100	1.027	1.066	1.210	1.183	70- 80	2.967	1564	99.9,99.9
90	1.191	1.231	1.237	1.231	0.7574	0.7346	0.7400	0.7292	80- 90	0.9962	1565	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1515.4 lm

%lum = 96.8%

%lamp = 96.8%

Conical surface Flux(120deg): 1554.6 lm

%lum = 99.3%

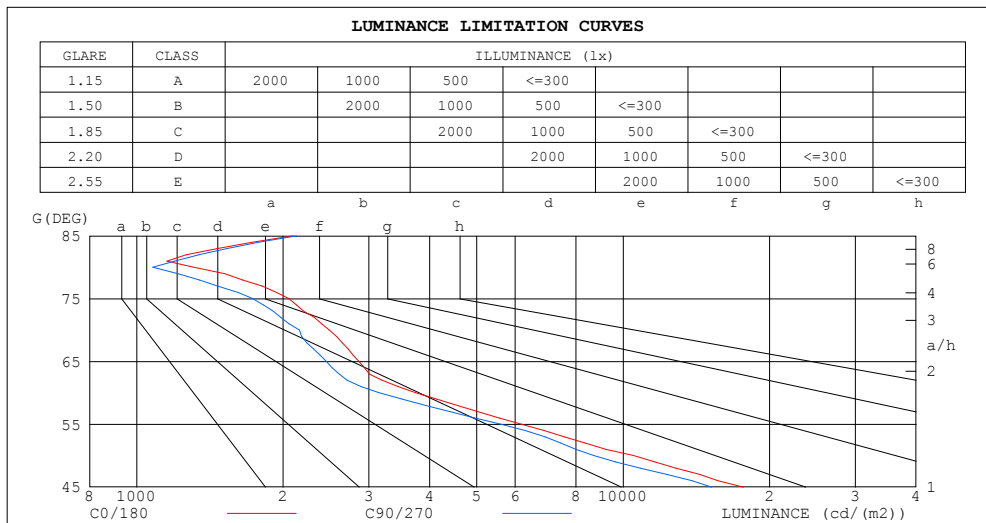
%lamp = 99.3%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:7.240m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm		
NAME: ALS70-20G30-40	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2094	2131
80	1310	1079
75	2054	1732
70	2488	2161
65	2864	2455
60	3743	3148
55	6164	5589
50	10486	8690
45	17666	15208

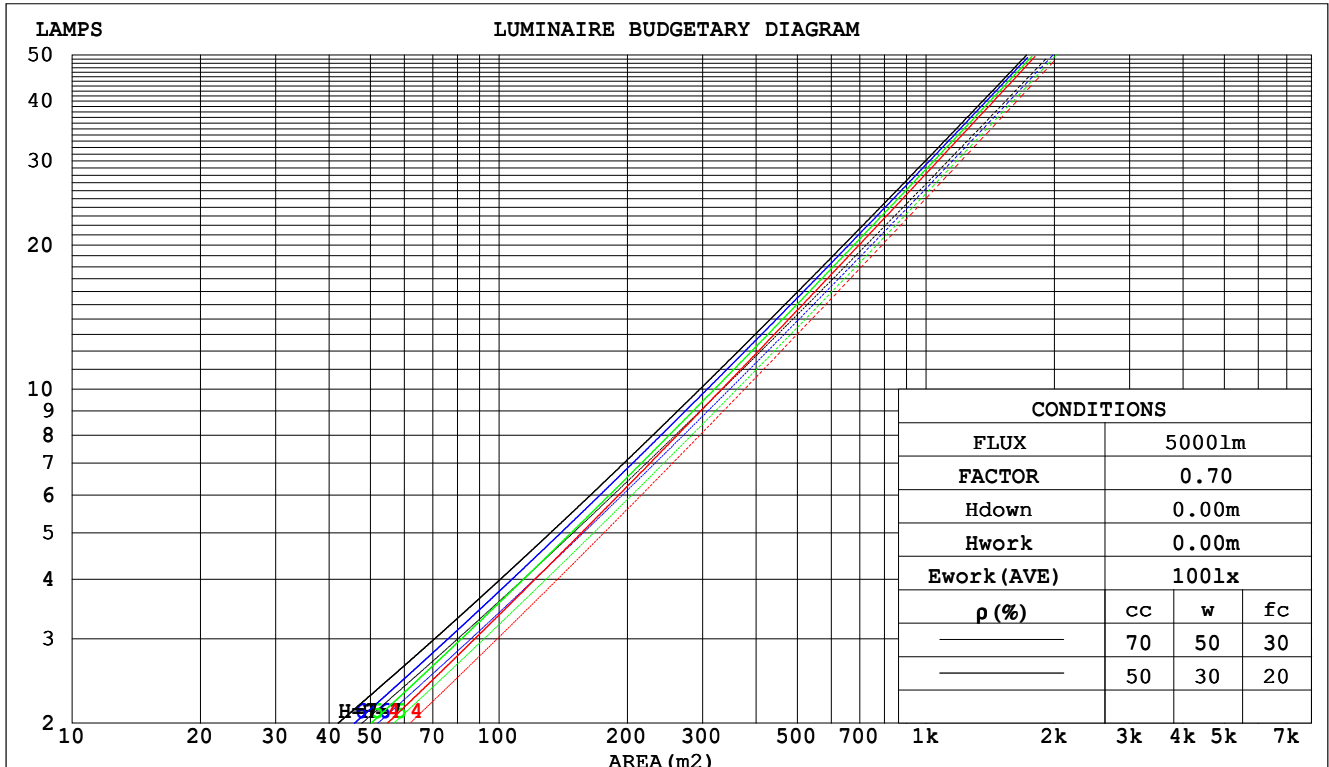
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm		
NAME: ALS70-20G30-40	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.99	.97	.99	.97	.95	.97	.95	.93	.94	.92	.91	.89
3.0	.99	.94	.91	.97	.93	.90	.95	.91	.88	.92	.89	.87	.90	.88	.86	.84
4.0	.93	.88	.84	.92	.87	.84	.90	.86	.83	.88	.85	.82	.86	.83	.81	.80
5.0	.88	.83	.79	.87	.82	.79	.86	.81	.78	.84	.80	.78	.83	.79	.77	.76
6.0	.84	.78	.75	.83	.78	.74	.82	.77	.74	.80	.76	.73	.79	.76	.73	.72
7.0	.80	.74	.71	.79	.74	.71	.78	.73	.70	.77	.73	.70	.76	.72	.69	.68
8.0	.76	.71	.67	.75	.70	.67	.74	.70	.67	.73	.69	.66	.73	.69	.66	.65
9.0	.73	.67	.64	.72	.67	.64	.71	.67	.64	.70	.66	.63	.70	.66	.63	.62
10.0	.69	.64	.61	.69	.64	.61	.68	.64	.61	.68	.63	.61	.67	.63	.60	.59



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:7.240m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm									
NAME: ALS70-20G30-40					TYPE:			WEIGHT:	
SPEC.:					DIM.:			SERIAL No.:	
MFR.:					SUR.:60			Shielding Angle:	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.164	.093	.030	.157	.090	.028	.145	.083	.026	.133	.077	.025	.122	.071	.023	
2.0	.155	.085	.026	.150	.082	.025	.139	.077	.024	.129	.073	.023	.120	.068	.021	
3.0	.147	.078	.023	.142	.076	.023	.133	.072	.022	.125	.068	.021	.117	.065	.020	
4.0	.139	.072	.021	.135	.071	.021	.127	.068	.020	.120	.065	.019	.114	.062	.019	
5.0	.132	.067	.019	.129	.066	.019	.122	.063	.019	.116	.061	.018	.110	.059	.018	
6.0	.126	.063	.018	.123	.062	.018	.117	.060	.017	.112	.058	.017	.107	.056	.017	
7.0	.120	.059	.017	.117	.058	.017	.112	.057	.016	.107	.055	.016	.103	.054	.016	
8.0	.115	.056	.016	.112	.055	.016	.108	.054	.015	.104	.052	.015	.100	.051	.015	
9.0	.110	.053	.015	.108	.053	.015	.104	.051	.015	.100	.050	.014	.096	.049	.014	
10.0	.105	.051	.014	.104	.050	.014	.100	.049	.014	.097	.048	.014	.093	.047	.013	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.170	.157	.146	.146	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.154	.133	.115	.132	.114	.099	.090	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.141	.113	.092	.121	.098	.080	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.130	.099	.075	.111	.085	.065	.077	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.120	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007	
6.0	.112	.077	.052	.097	.067	.045	.067	.047	.032	.039	.028	.019	.012	.009	.006	
7.0	.106	.069	.044	.091	.060	.038	.063	.042	.027	.036	.025	.016	.012	.008	.005	
8.0	.100	.063	.038	.086	.055	.033	.059	.038	.023	.035	.023	.014	.011	.007	.005	
9.0	.094	.058	.033	.081	.050	.029	.056	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.090	.053	.029	.077	.046	.025	.054	.032	.018	.031	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm											
NAME: ALS70-20G30-40					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.: 60			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	14.8	15.7	15.1	15.8	16.0	14.3	15.1	14.5	15.3	15.4	
	3H	14.8	15.5	15.0	15.7	15.9	14.2	15.0	14.4	15.2	15.4
	4H	14.7	15.4	15.0	15.7	15.9	14.1	14.9	14.4	15.1	15.3
	6H	14.6	15.3	14.9	15.6	15.8	14.1	14.8	14.4	15.0	15.2
	8H	14.6	15.3	14.9	15.5	15.8	14.0	14.7	14.3	14.9	15.2
	12H	14.6	15.2	14.9	15.5	15.7	14.0	14.6	14.3	14.9	15.2
4H	2H	14.6	15.4	14.9	15.6	15.8	14.1	14.8	14.4	15.0	15.3
	3H	14.6	15.2	14.9	15.5	15.7	14.0	14.7	14.3	14.9	15.2
	4H	14.5	15.1	14.9	15.4	15.7	14.0	14.6	14.3	14.8	15.2
	6H	14.5	15.0	14.8	15.3	15.6	13.9	14.4	14.3	14.7	15.1
	8H	14.4	14.9	14.8	15.2	15.6	13.9	14.3	14.3	14.7	15.1
	12H	14.4	14.8	14.8	15.2	15.6	13.8	14.3	14.2	14.6	15.0
8H	4H	14.4	14.9	14.8	15.2	15.6	13.9	14.3	14.2	14.7	15.0
	6H	14.3	14.7	14.8	15.1	15.5	13.8	14.2	14.2	14.6	15.0
	8H	14.3	14.6	14.7	15.1	15.5	13.7	14.1	14.2	14.5	14.9
	12H	14.3	14.6	14.7	15.0	15.5	13.7	14.0	14.2	14.5	14.9
12H	4H	14.4	14.8	14.8	15.2	15.5	13.8	14.2	14.2	14.6	15.0
	6H	14.3	14.6	14.7	15.0	15.5	13.7	14.1	14.2	14.5	14.9
	8H	14.3	14.5	14.7	15.0	15.5	13.7	14.0	14.2	14.4	14.9
Variations with the observer position at spacings:											
S = 1.0H	+ 2.9 / - 6.1					+ 2.6 / - 6.1					
1.5H	+ 4.6 / - 5.0					+ 4.3 / - 4.7					
2.0H	+ 4.6 / - 4.2					+ 4.5 / - 4.0					

CIE Pub.117, 1565 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.6)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm		
NAME: ALS70-20G30-40	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

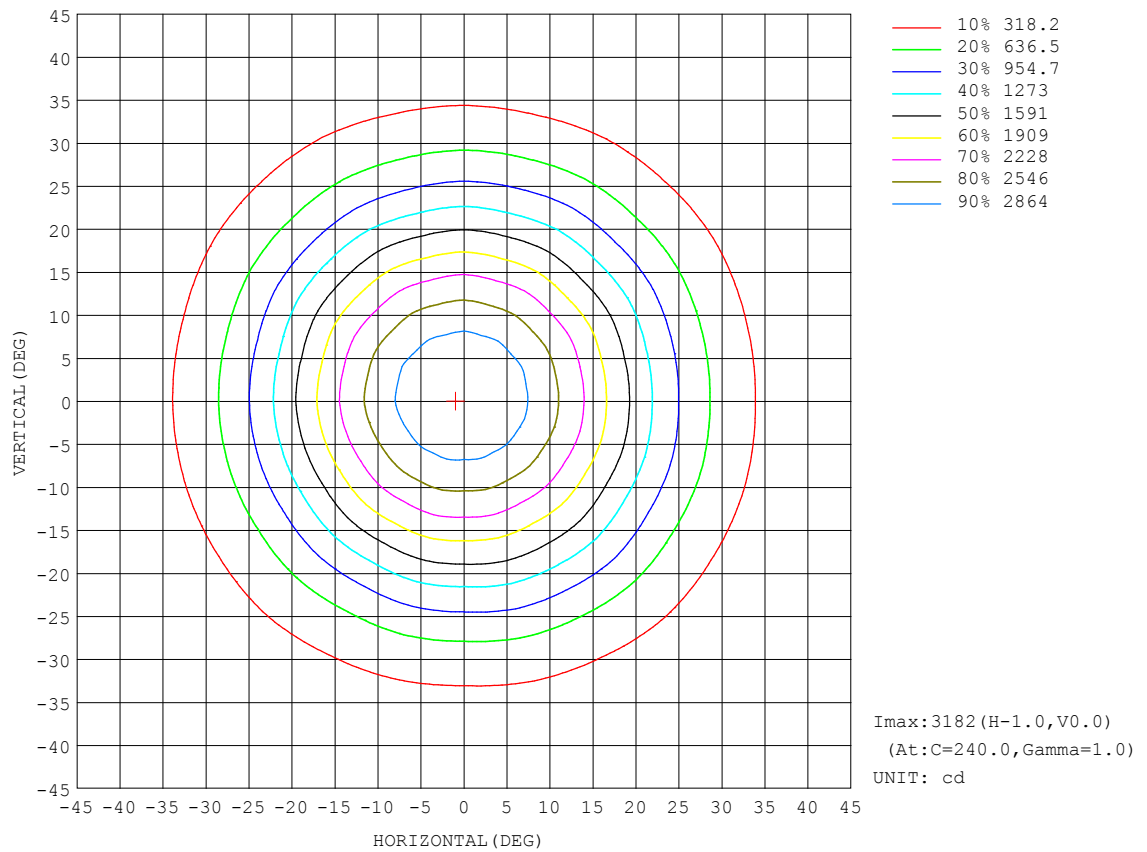
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	88	82	78	87	81	78	74
0.80	95	90	86	95	89	86	94	89	86	82
1.00	100	94	91	99	94	90	97	94	90	86
1.25	104	99	95	103	98	95	101	97	94	90
1.50	106	102	98	105	101	98	103	99	97	92
2.00	109	105	102	107	104	101	105	102	99	94
2.50	110	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
4.00	114	111	109	112	110	108	108	107	105	98
5.00	115	113	111	113	111	110	109	108	106	99
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm		
NAME: ALS70-20G30-40	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

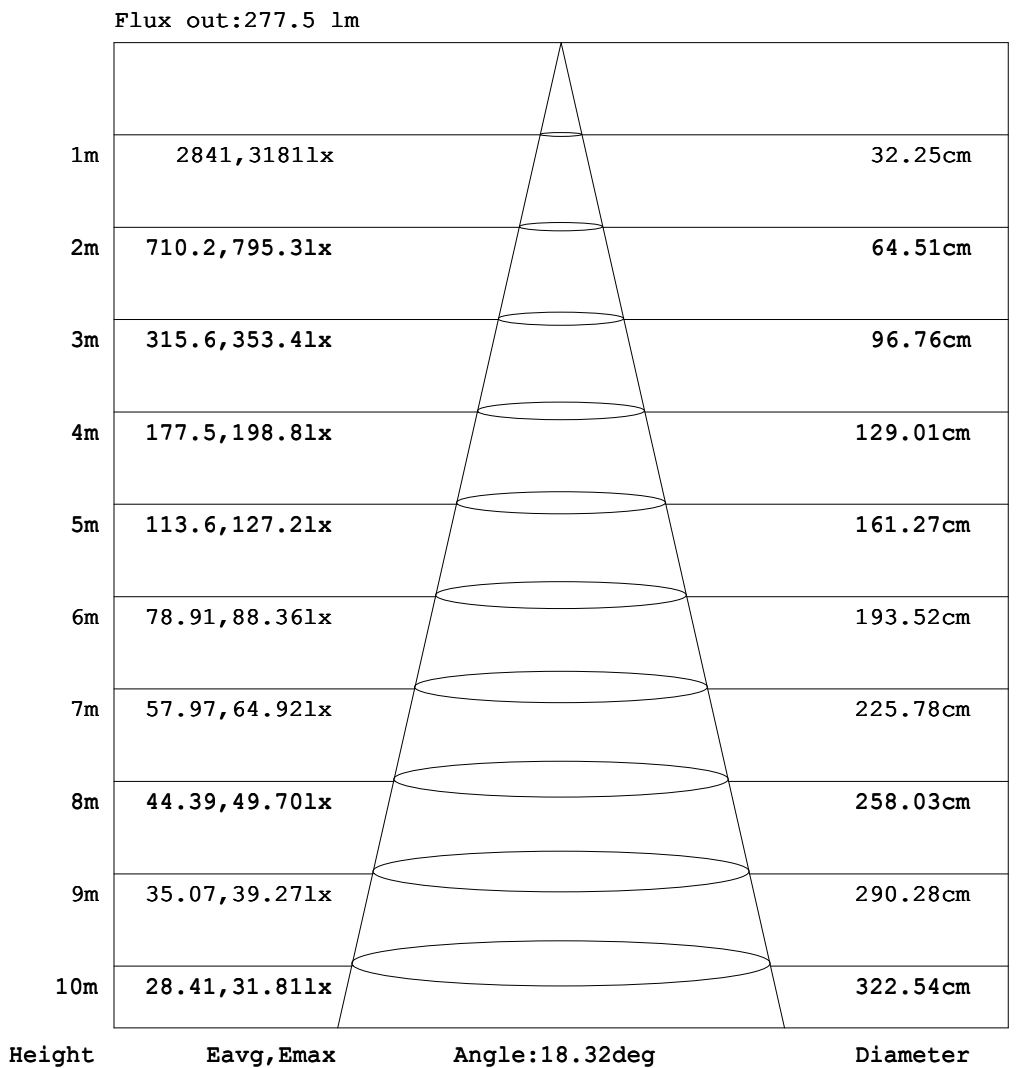


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

AAI Figure

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm		
NAME: ALS70-20G30-40	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



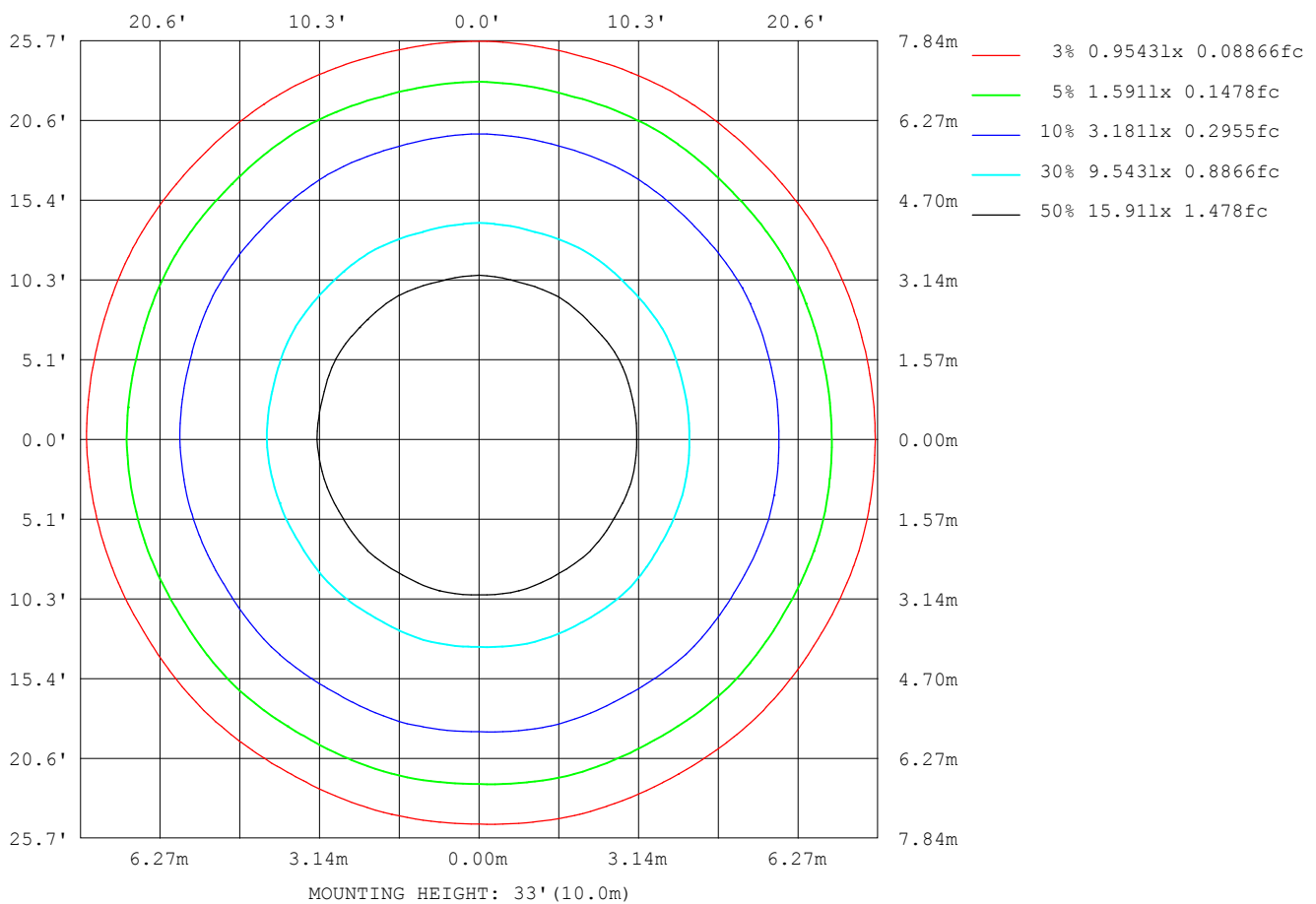
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:AE
 Test Date:2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:7.240m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm		
NAME: ALS70-20G30-40	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:225.1V I:0.0920A P:20.40W PF:0.9770 Freq:0Hz Lamp Flux:1565.34x1 lm		
NAME: ALS70-20G30-40	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

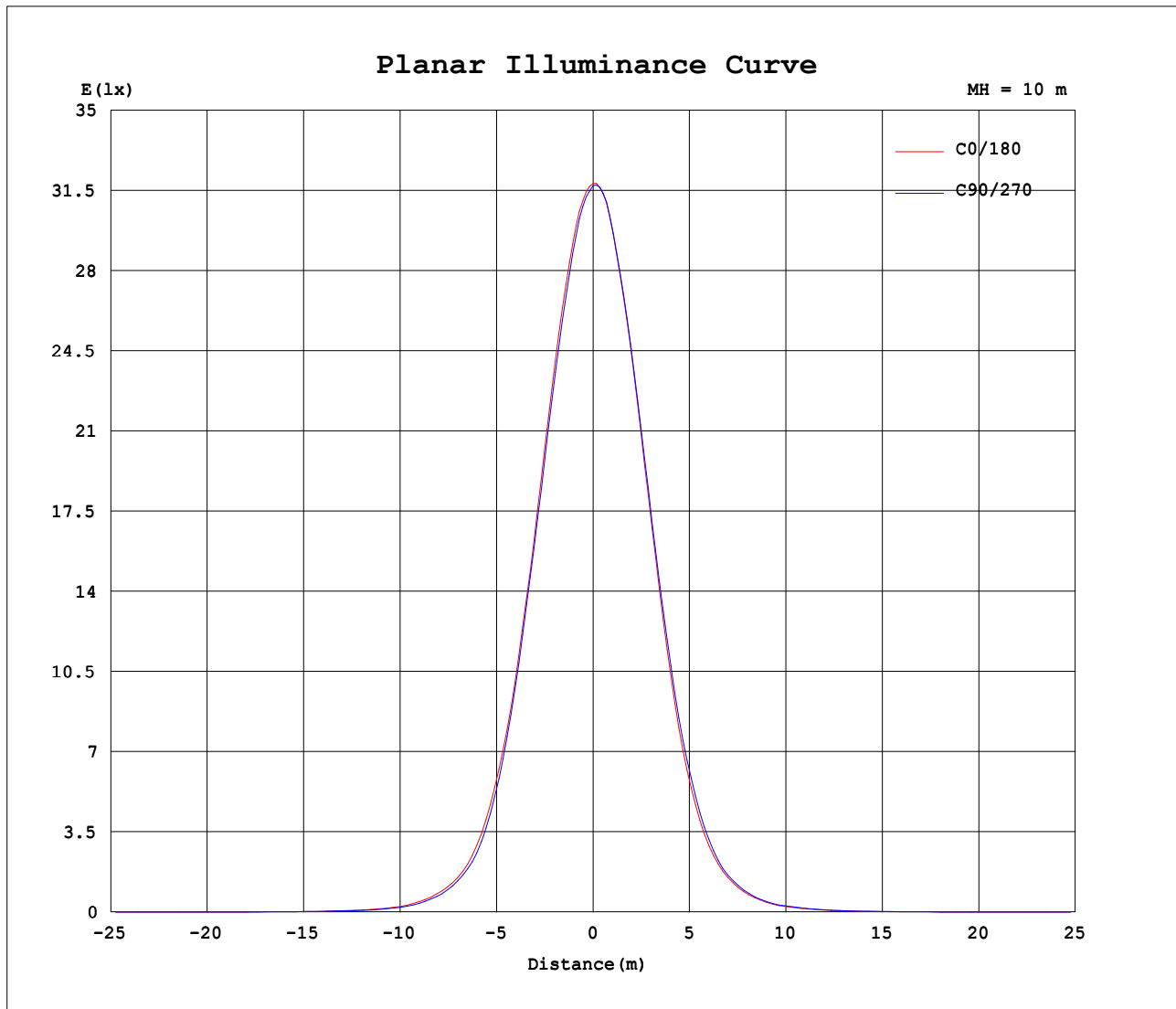
AvgL	cd/m2
L_0~180 (65) av	2878
L_0~180 (75) av	2014
L_0~180 (85) av	1773
L_90~270 (65) av	2721
L_90~270 (75) av	1870
L_90~270 (85) av	1798
L_45 (65) av	2762
L_45 (75) av	1919
L_45 (85) av	1771

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:AE
Test Date:2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: AE
Test Date: 2020-11-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 7.240m [K=1.0000]
Remarks:

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