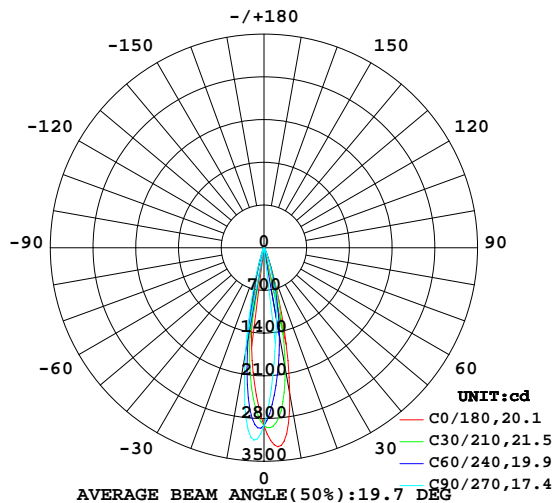


## LUMINAIRE PHOTOMETRIC TEST REPORT

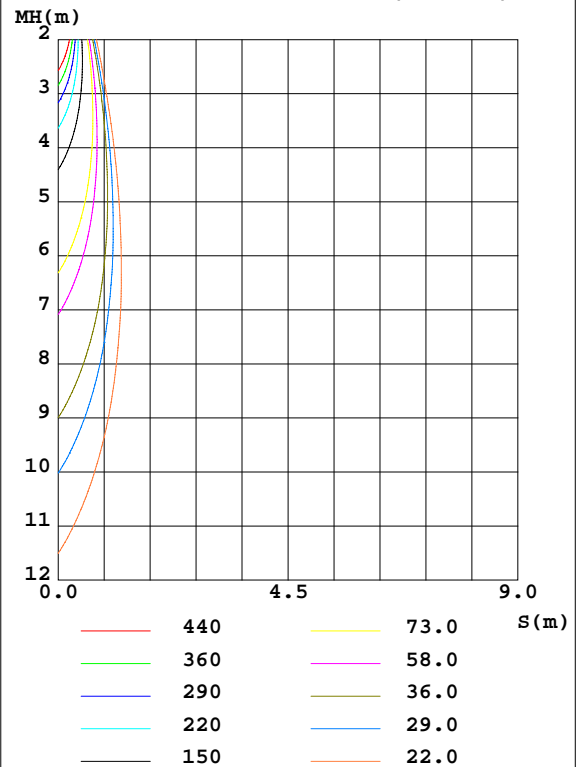
Test:U:225.1V I:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:36		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 57.89 lm/W
MODEL	ALR45-8G30-24	I <sub>max</sub> (cd)	3431	S/MH(C0/180)	0.42	
NOMINAL POWER(W)	8	LOR(%)	100.0	S/MH(C90/270)	0.26	
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	461.34	η UP,DN(C0-180)	0.0,51.1	
NOMINAL FLUX(lm)	461.344	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.9	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	225.1	η down(%)	100.0	CIBSE SHR MAX	1.00	

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:2020-06-16

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:

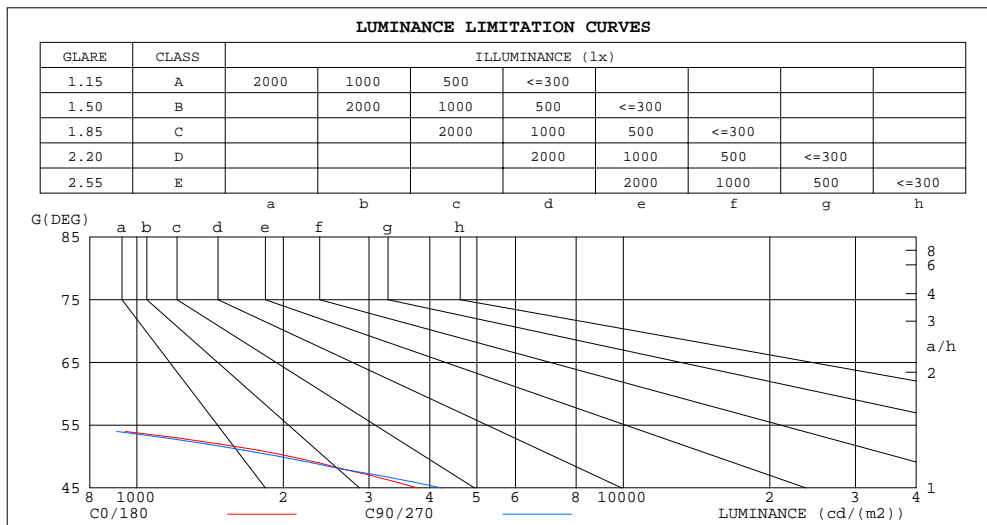
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	1114	1407	1741	2238	2439	1688	1178	1071	0- 10	212.0	212.0	46,46
20	121.3	128.2	151.2	234.6	323.0	277.3	239.1	170.0	10- 20	193.4	405.5	87.9,87.9
30	26.77	26.60	29.36	36.60	42.45	41.82	37.53	31.96	20- 30	36.91	442.4	95.9,95.9
40	9.006	9.141	10.25	12.35	13.71	12.65	11.81	10.51	30- 40	12.49	454.9	98.6,98.6
50	2.206	1.881	2.076	2.963	3.735	3.582	4.802	3.362	40- 50	5.046	459.9	99.7,99.7
60	0.0004	0	0.0001	0.0627	0.3351	0.3906	0.3125	0.1631	50- 60	1.167	461.1	99.9,99.9
70	0	0	0	0	0	0	0	0	60- 70	0.0879	461.2	100,100
80	0	0	0	0	0	0	0	0	70- 80	0.0953	461.2	100,100
90	0	0	0	0	0	0	0	0	80- 90	0.0951	461.3	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		

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:36	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	0	0
80	0	0
75	0	0
70	0	0
65	0	0
60	0	0
55	693	685
50	2064	1962
45	3775	4230

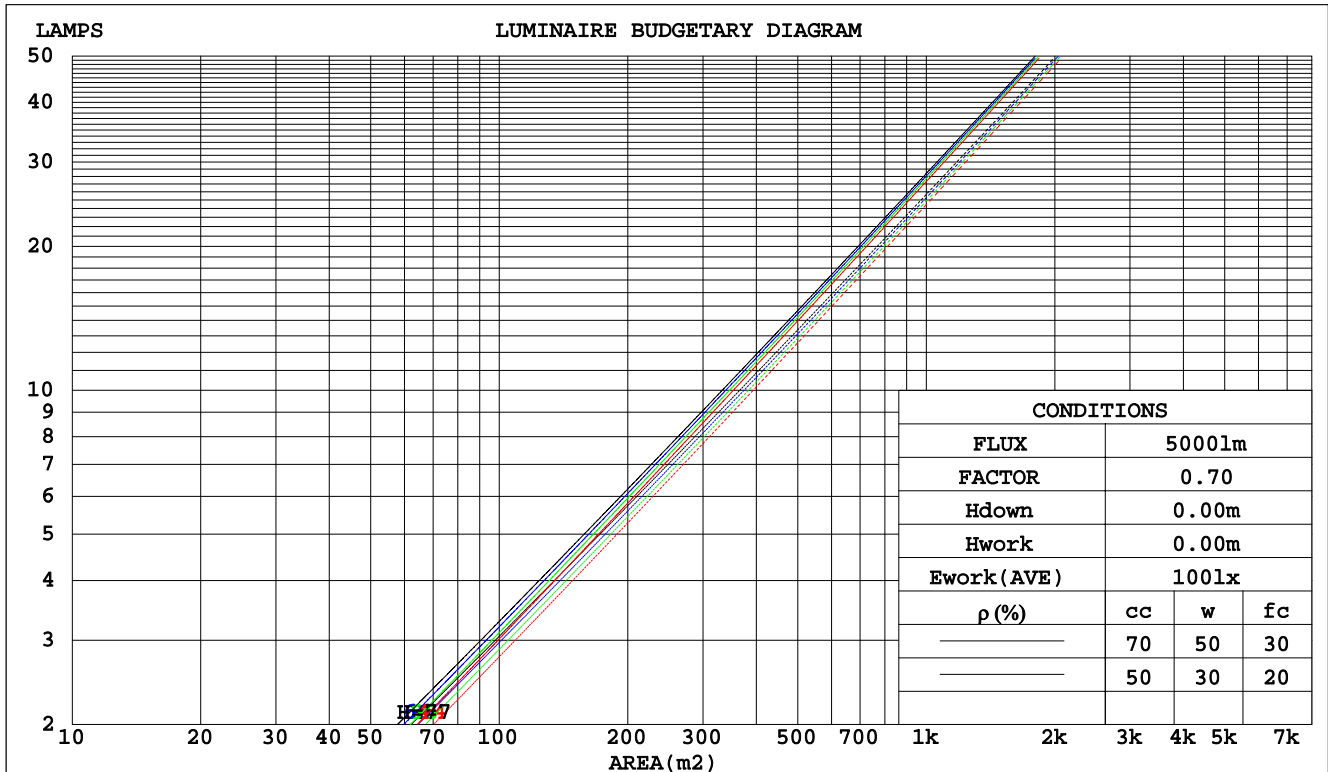
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: AE  
Test Date: 2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:36	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	1.13	1.12	1.10	1.11	1.10	1.08	1.07	1.06	1.05	1.04	1.03	1.02	1.00	.00	.99	.97
2.0	1.09	1.06	1.04	1.07	1.05	1.02	1.04	1.02	1.00	1.01	.99	.98	.98	.97	.96	.95
3.0	1.05	1.01	.99	1.03	1.00	.98	1.01	.98	.96	.99	.97	.95	.97	.95	.94	.92
4.0	1.01	.97	.95	.99	.97	.94	.98	.95	.93	.96	.94	.92	.95	.93	.91	.90
5.0	.98	.94	.91	.97	.94	.91	.95	.93	.90	.94	.92	.90	.93	.91	.89	.88
6.0	.95	.91	.89	.94	.91	.88	.93	.90	.88	.92	.89	.87	.91	.89	.87	.86
7.0	.93	.89	.86	.92	.88	.86	.91	.88	.86	.90	.87	.85	.89	.87	.85	.84
8.0	.90	.87	.84	.90	.86	.84	.89	.86	.84	.88	.85	.83	.87	.85	.83	.82
9.0	.88	.85	.82	.88	.84	.82	.87	.84	.82	.86	.83	.81	.86	.83	.81	.80
10.0	.86	.83	.80	.86	.82	.80	.85	.82	.80	.85	.82	.80	.84	.81	.80	.79



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

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:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm									
NAME:				TYPE:			WEIGHT:		
SPEC.:				DIM.:			SERIAL No.:		
MFR.:				SUR.:36			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	.128	.073	.023	.121	.069	.022	.109	.062	.020	.097	.056	.018	.087	.050	.016		
2.0	.117	.064	.020	.112	.062	.019	.102	.057	.018	.092	.052	.016	.084	.047	.015		
3.0	.109	.058	.017	.104	.056	.017	.096	.052	.016	.088	.048	.015	.081	.045	.014		
4.0	.101	.053	.015	.097	.051	.015	.090	.048	.014	.084	.045	.014	.078	.042	.013		
5.0	.095	.048	.014	.092	.047	.014	.086	.045	.013	.080	.042	.013	.075	.040	.012		
6.0	.089	.045	.013	.087	.044	.013	.081	.042	.012	.077	.040	.012	.072	.038	.011		
7.0	.084	.042	.012	.082	.041	.012	.078	.039	.011	.074	.038	.011	.070	.036	.011		
8.0	.080	.039	.011	.078	.038	.011	.074	.037	.011	.071	.036	.010	.067	.035	.010		
9.0	.076	.037	.010	.075	.036	.010	.071	.035	.010	.068	.034	.010	.065	.033	.010		
10.0	.073	.035	.010	.071	.035	.010	.068	.034	.009	.066	.033	.009	.063	.032	.009		

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	.168	.158	.149	.143	.135	.128	.098	.093	.089	.056	.054	.051	.018	.017	.017		
2.0	.149	.133	.119	.128	.114	.103	.087	.079	.072	.050	.046	.042	.016	.015	.014		
3.0	.133	.113	.097	.114	.098	.084	.079	.068	.059	.045	.040	.035	.015	.013	.011		
4.0	.120	.098	.080	.103	.084	.070	.071	.059	.049	.041	.034	.029	.013	.011	.010		
5.0	.109	.085	.067	.094	.074	.059	.065	.051	.041	.037	.030	.025	.012	.010	.008		
6.0	.100	.075	.057	.086	.065	.050	.059	.045	.035	.034	.027	.021	.011	.009	.007		
7.0	.092	.067	.049	.079	.058	.043	.055	.041	.030	.032	.024	.018	.010	.008	.006		
8.0	.085	.060	.042	.074	.052	.037	.051	.036	.026	.030	.021	.016	.010	.007	.005		
9.0	.080	.054	.037	.069	.047	.032	.048	.033	.023	.028	.019	.014	.009	.006	.004		
10.0	.075	.049	.032	.064	.043	.028	.045	.030	.020	.026	.018	.012	.008	.006	.004		

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

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:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.:36			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	2H	7.5	8.0	7.6	8.2	8.3	7.9	8.4	8.1	8.6	8.7
	3H	7.3	7.9	7.5	8.0	8.2	7.7	8.3	7.9	8.4	8.6
	4H	7.2	7.8	7.5	8.0	8.2	7.6	8.2	7.9	8.4	8.6
	6H	7.1	7.6	7.4	7.9	8.1	7.6	8.0	7.8	8.3	8.5
	8H	7.1	7.6	7.4	7.8	8.1	7.5	8.0	7.8	8.2	8.5
	12H	7.1	7.5	7.4	7.8	8.0	7.5	7.9	7.8	8.2	8.4
4H	2H	7.2	7.8	7.5	8.0	8.2	7.6	8.2	7.9	8.4	8.6
	3H	7.1	7.5	7.4	7.8	8.0	7.5	7.9	7.8	8.2	8.4
	4H	7.0	7.4	7.3	7.7	8.0	7.4	7.8	7.7	8.1	8.4
	6H	6.9	7.2	7.2	7.6	7.9	7.3	7.6	7.6	8.0	8.3
	8H	6.8	7.2	7.2	7.5	7.9	7.2	7.6	7.6	7.9	8.3
	12H	6.8	7.1	7.2	7.4	7.8	7.2	7.5	7.6	7.8	8.2
8H	4H	6.8	7.2	7.2	7.5	7.9	7.2	7.6	7.6	7.9	8.3
	6H	6.7	7.0	7.1	7.4	7.8	7.1	7.4	7.5	7.8	8.2
	8H	6.6	6.9	7.1	7.3	7.7	7.0	7.3	7.5	7.7	8.1
	12H	6.6	6.8	7.0	7.2	7.7	7.0	7.2	7.4	7.6	8.1
12H	4H	6.8	7.1	7.2	7.4	7.8	7.2	7.5	7.6	7.8	8.2
	6H	6.6	6.9	7.1	7.3	7.7	7.0	7.3	7.5	7.7	8.1
	8H	6.6	6.8	7.0	7.2	7.7	7.0	7.2	7.4	7.6	8.1
Variations with the observer position at spacings:											
S = 1.0H	+ 2.9 / -23.0					+ 3.2 / -30.4					
1.5H	+ 4.6 / -12.7					+ 5.0 / -14.1					
2.0H	+ 6.7 / - 1.\$					+ 7.4 / - 1.\$					

CIE Pub.117, 461.3 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.7)

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

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:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:36	Shielding Angle:

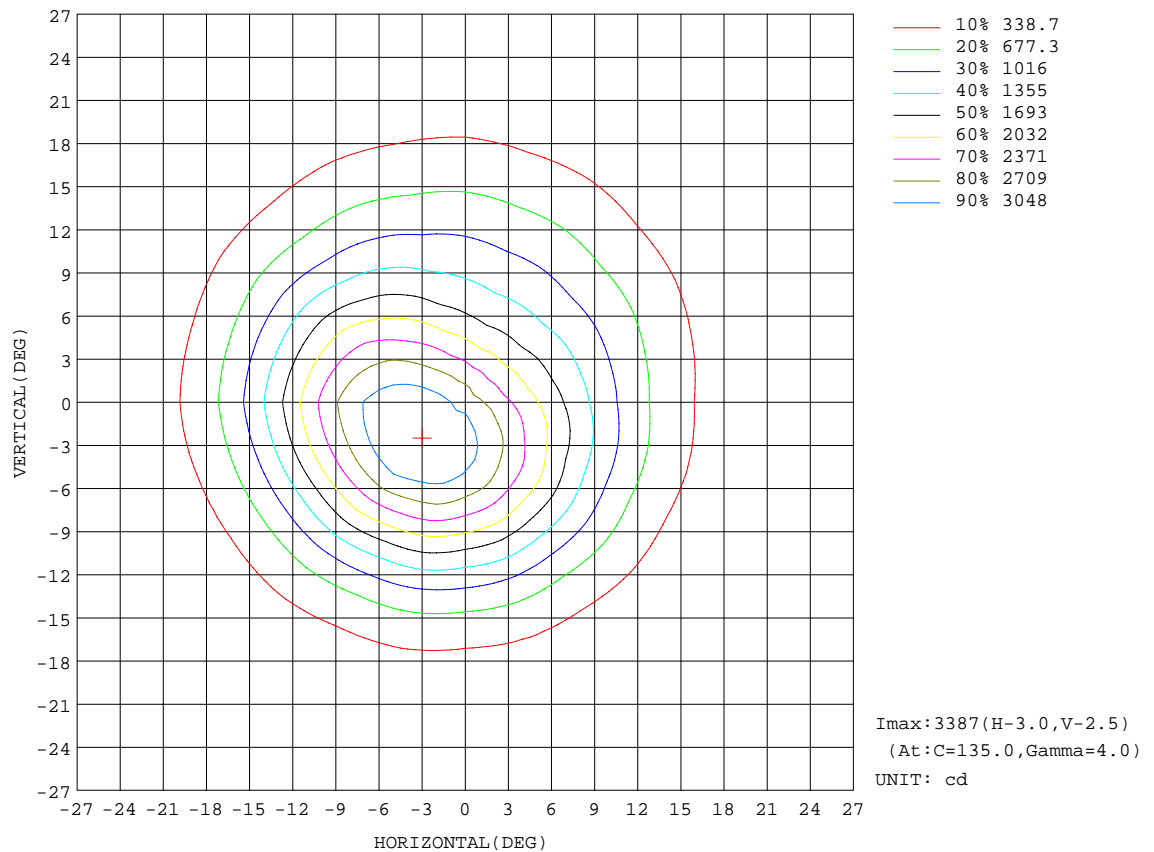
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	82	90	85	81	89	84	81	78
0.80	98	92	89	97	92	89	96	92	89	85
1.00	102	96	93	101	96	93	99	96	92	89
1.25	105	100	97	104	100	97	102	99	96	92
1.50	108	103	100	106	103	100	104	101	99	95
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	107	104	107	104	102	97
3.00	113	110	107	111	108	106	108	105	104	98
4.00	114	112	110	112	110	109	109	107	106	99
5.00	116	114	112	114	112	110	110	108	107	100
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:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:36	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

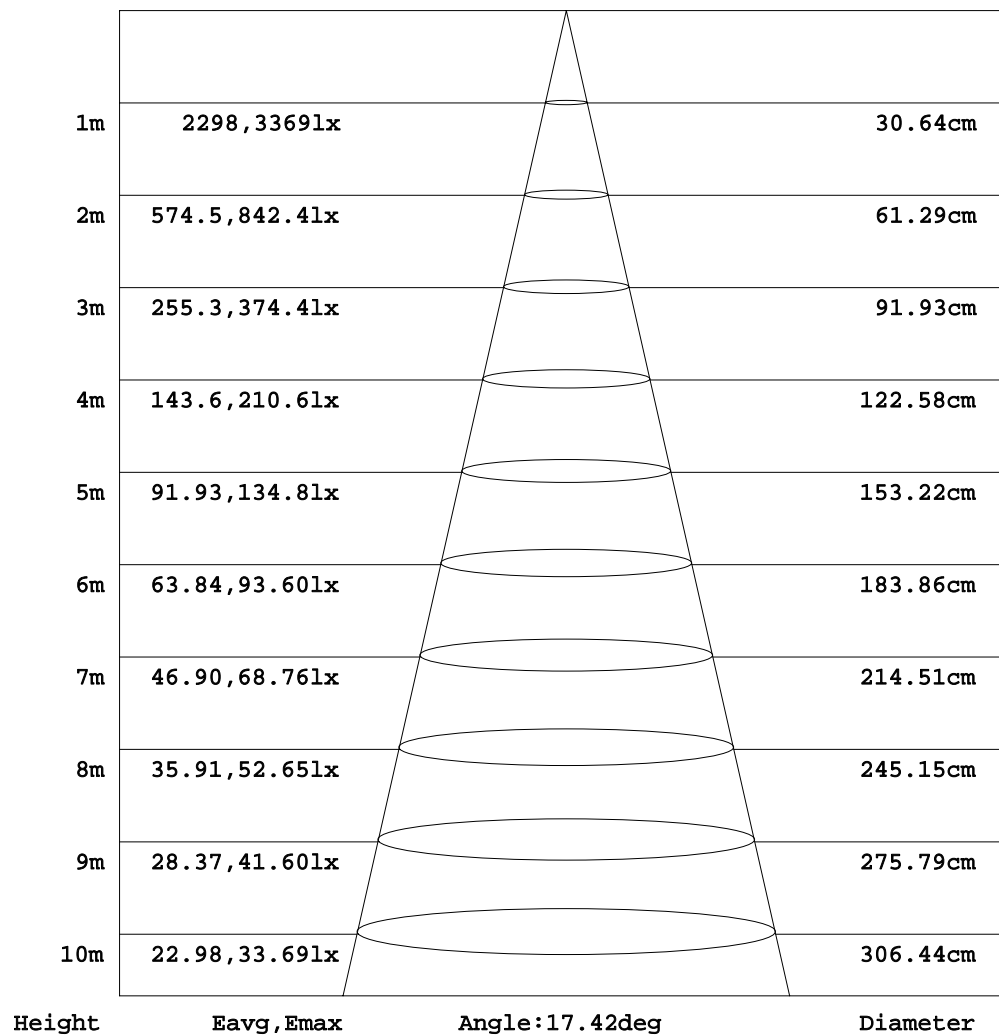
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:



## AAI Figure

Test:U:225.1V I:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:36	Shielding Angle:

Flux out:181.1 lm



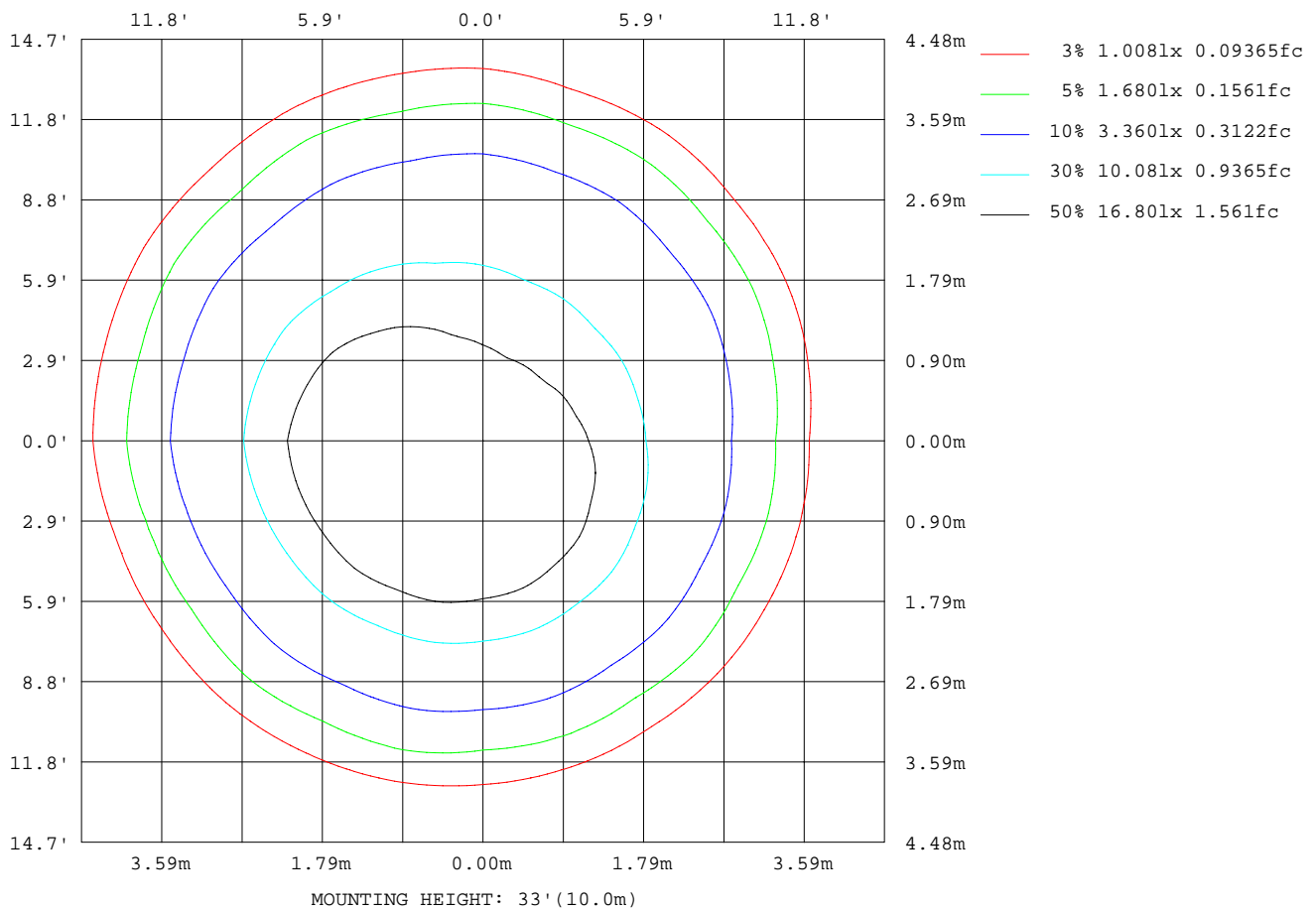
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: AE  
 Test Date: 2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:36	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: AE  
 Test Date: 2020-06-16

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:0.0380A P:7.970W PF:0.9280 Freq:50.00Hz Lamp Flux:461.344x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:36	Shielding Angle:

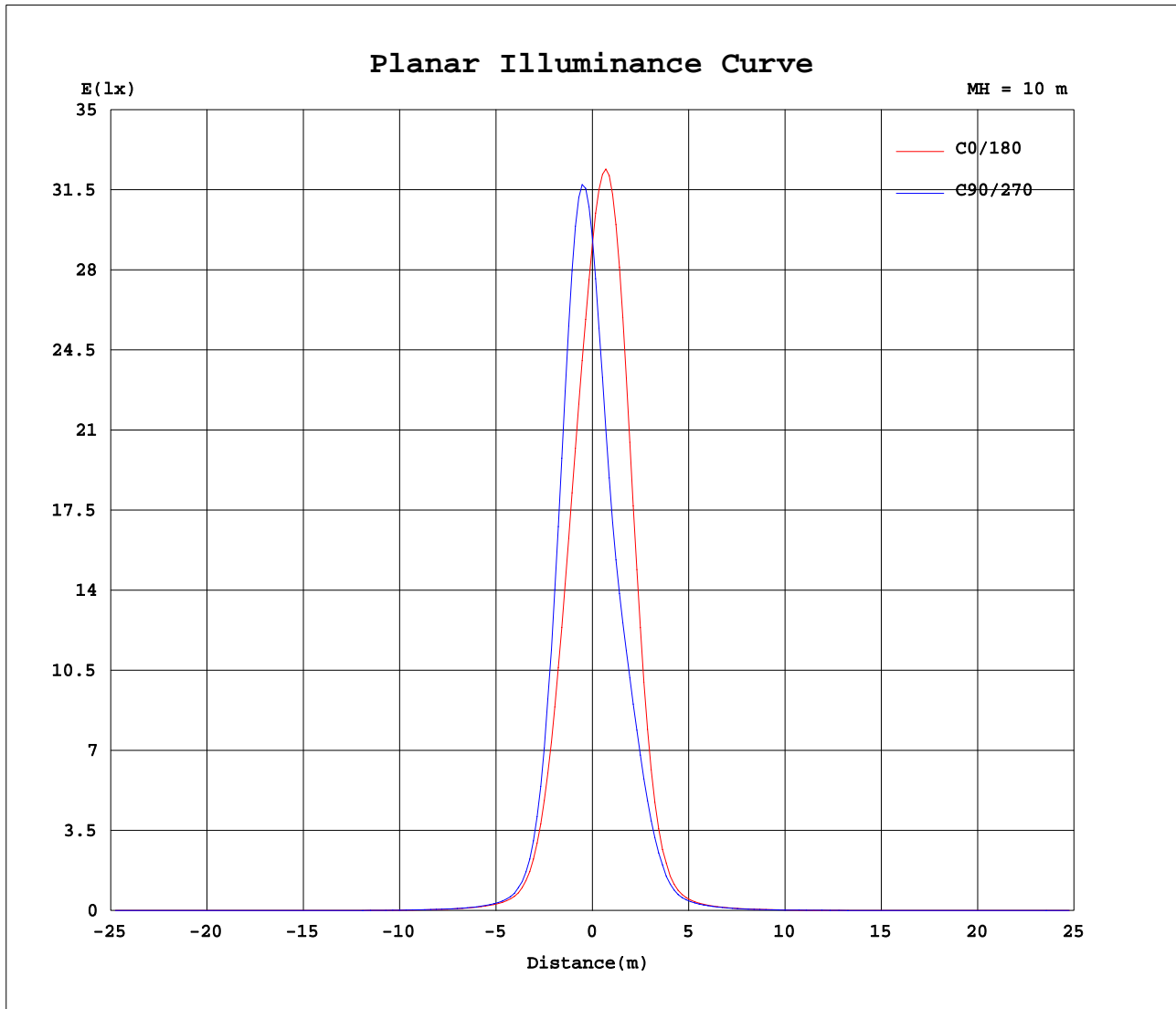
AvgL	cd/m2
L_0~180(65)av	0
L_0~180(75)av	0
L_0~180(85)av	0
L_90~270(65)av	0
L_90~270(75)av	0
L_90~270(85)av	0
L_45(65)av	0
L_45(75)av	0
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

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: 2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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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