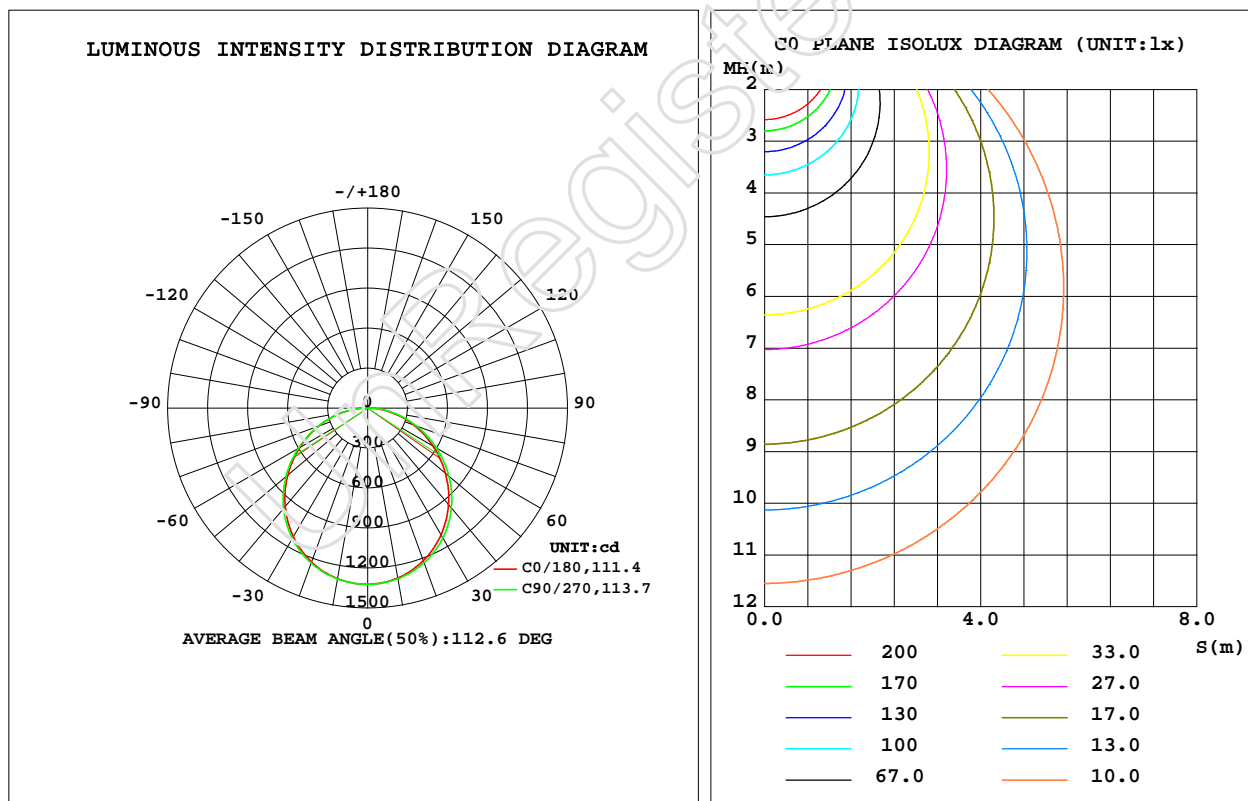


## LUMINAIRE PHOTOMETRIC TEST REPORT

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 95.61 lm/W			
MODEL		I <sub>max</sub> (cd)	1322	S/MH(C0/180)	1.25
NOMINAL POWER(W)	40.2W	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	3845.0	$\eta$ UP,DN(C0~180)	0.0,49.8
NOMINAL FLUX(lm)	3844.97	CIE CLASS	DIRECT	$\eta$ UP,DN(C180~360)	0.0,50.2
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	$\eta$ down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: GO-2000 SYSTEM V2.0.401  
 Humidity:65.0%  
 Test Distance:6.200m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

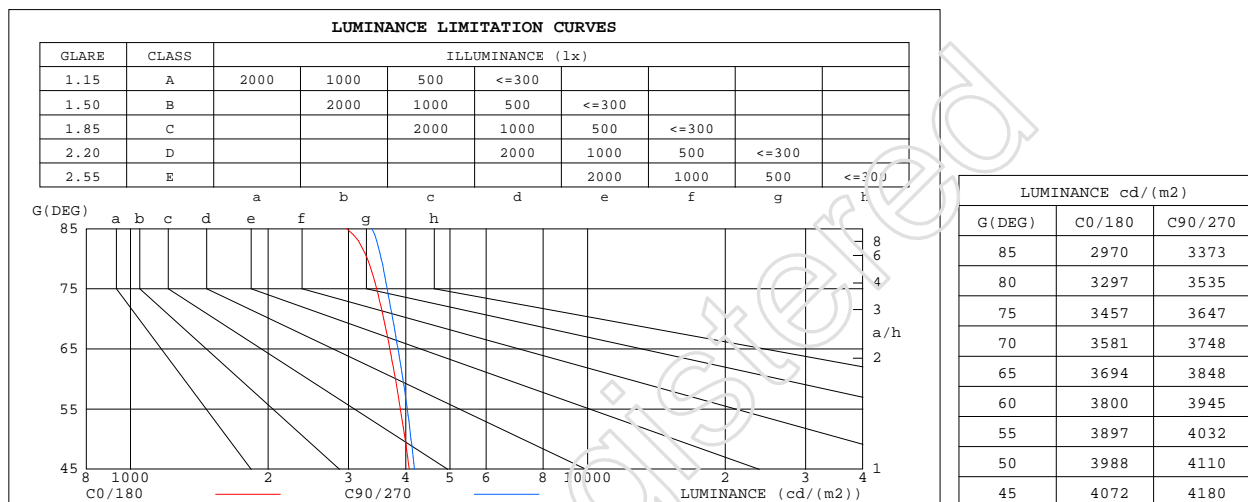
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	1295	1299	1301	1300	1300	1299	1302	1298	0- 10	125.1	125.1	3.25,3.25
20	1219	1230	1236	1233	1230	1231	1238	1229	10- 20	358.6	483.7	12.6,12.6
30	1100	1117	1127	1121	1115	1119	1131	1114	20- 30	543.6	1027	26.7,26.7
40	944.5	964.5	978.1	971.0	963.3	969.2	982.6	961.4	30- 40	654.7	1682	43.7,43.7
50	762.3	781.9	795.7	790.9	783.1	788.6	800.9	778.4	40- 50	678.0	2360	61.4,61.4
60	565.0	581.9	594.1	593.2	586.4	590.2	598.2	578.1	50- 60	614.0	2974	77.4,77.4
70	364.2	377.1	386.1	390.2	385.6	386.4	389.8	372.5	60- 70	478.6	3453	89.8,89.8
80	170.3	177.5	184.9	190.9	190.3	187.2	187.3	173.4	70- 80	296.8	3750	97.5,97.5
90	0	0.0869	1.064	3.590	4.450	3.403	0.8389	0.1246	80- 90	95.37	3845	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: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: GO-2000 SYSTEM V2.0.401  
 Humidity:65.0%  
 Test Distance:6.200m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



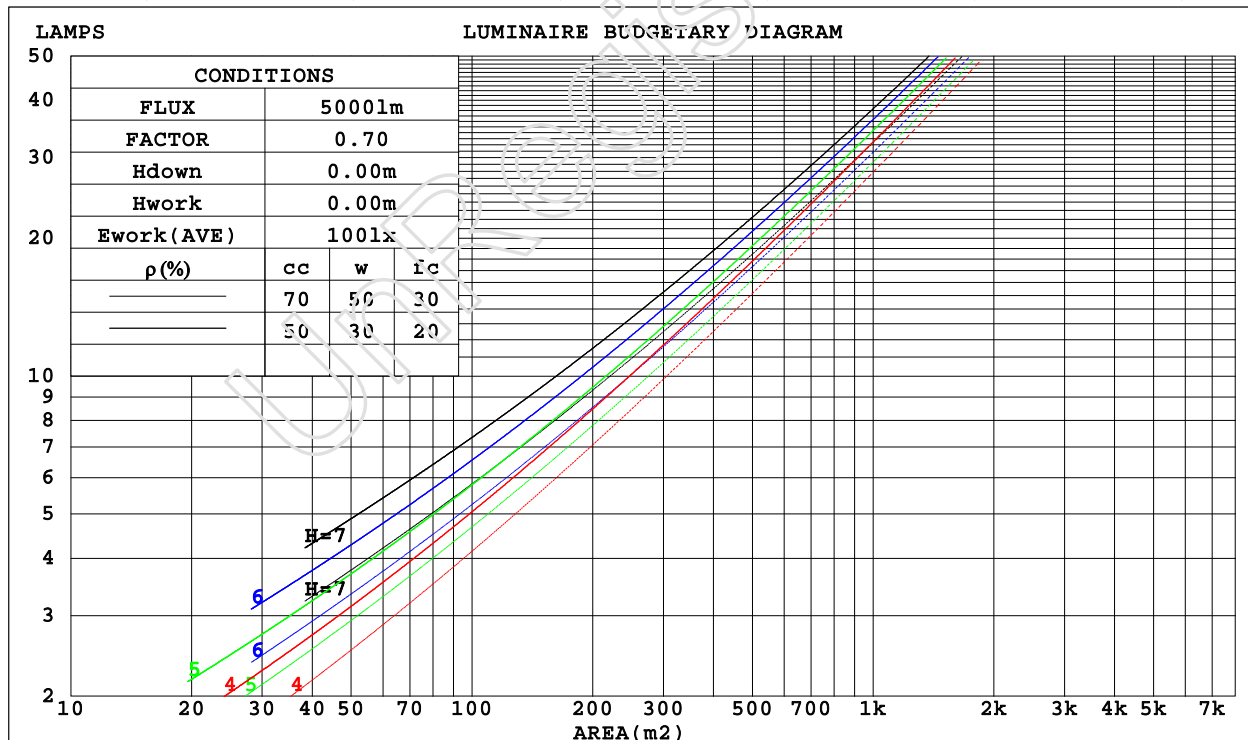
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2019-07-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: GO-2000 SYSTEM V2.0.401  
Humidity: 65.0%  
Test Distance: 6.200m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0	
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
$\rho_{fc}$	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	1.03	.99	.95	1.01	.97	.93	.97	.93	.90	.93	.90	.88	.89	.87	.85	.83	
2.0	.90	.83	.77	.88	.81	.76	.84	.79	.74	.81	.76	.72	.78	.74	.71	.69	
3.0	.79	.70	.64	.77	.69	.63	.74	.67	.62	.71	.66	.61	.69	.64	.60	.58	
4.0	.70	.61	.54	.68	.60	.53	.66	.58	.53	.63	.57	.52	.61	.56	.51	.49	
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.45	.57	.50	.45	.55	.49	.44	.42	
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.40	.51	.45	.39	.50	.44	.39	.37	
7.0	.51	.42	.36	.50	.41	.35	.48	.41	.35	.47	.40	.35	.45	.39	.35	.33	
8.0	.46	.38	.32	.46	.37	.32	.44	.37	.31	.43	.36	.31	.42	.36	.31	.29	
9.0	.42	.34	.28	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.26	
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.25	.24	



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2019-07-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: GO-2000 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 6.200m [K=1.0000]  
 Remarks:

## WEC AND CCEC

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	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	.320	.182	.058	.313	.178	.057	.299	.172	.055	.287	.166	.053	.276	.160	.052	
2.0	.298	.163	.050	.292	.161	.050	.280	.156	.048	.269	.151	.047	.259	.147	.046	
3.0	.274	.146	.044	.269	.144	.043	.258	.140	.043	.249	.136	.042	.240	.133	.041	
4.0	.252	.131	.039	.247	.130	.038	.238	.126	.038	.230	.123	.037	.222	.120	.037	
5.0	.233	.119	.034	.228	.117	.034	.220	.115	.034	.213	.112	.033	.205	.110	.033	
6.0	.215	.108	.031	.212	.107	.031	.204	.105	.030	.196	.103	.030	.191	.101	.030	
7.0	.200	.099	.028	.197	.098	.028	.190	.096	.028	.184	.094	.027	.179	.093	.027	
8.0	.187	.091	.026	.184	.091	.026	.176	.089	.025	.173	.087	.025	.167	.086	.025	
9.0	.175	.085	.024	.172	.084	.024	.167	.083	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.149	.075	.021	

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	.181	.156	.134	.155	.134	.115	.106	.092	.080	.061	.053	.046	.020	.017	.015	
2.0	.173	.132	.097	.143	.114	.084	.102	.079	.059	.059	.046	.034	.019	.015	.011	
3.0	.165	.114	.074	.142	.099	.064	.097	.069	.045	.056	.040	.026	.018	.013	.009	
4.0	.158	.101	.058	.135	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.011	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.015	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.074	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.118	.060	.022	.101	.052	.019	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2019-07-18

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: GO-2000 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 6.200m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

NAME:	TYPE:					WEIGHT:				
SPEC.:	DIM.:					SERIAL No.:				
MFR.:	SUR.:					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	12.9	14.4	13.1	14.6	14.8	13.0	14.5	13.3	14.7	15.0
3H	14.4	15.9	14.7	16.1	16.3	14.6	16.0	14.9	16.3	16.5
4H	15.1	16.5	15.4	16.7	17.0	15.3	16.7	15.6	16.9	17.2
6H	15.7	16.9	16.0	17.2	17.5	15.9	17.2	16.2	17.4	17.7
8H	15.8	17.1	16.2	17.4	17.6	16.1	17.3	16.4	17.6	17.9
12H	16.0	17.1	16.3	17.4	17.7	16.2	17.4	16.6	17.7	18.0
4H 2H	13.5	14.9	13.8	15.1	15.4	13.6	15.0	13.9	15.2	15.5
3H	15.3	16.5	15.6	16.8	17.1	15.4	16.6	15.8	16.9	17.2
4H	16.1	17.2	16.5	17.5	17.8	16.3	17.4	16.6	17.7	18.0
6H	16.8	17.7	17.2	18.1	18.5	17.0	17.9	17.4	18.3	18.7
8H	17.0	17.9	17.4	18.3	18.7	17.2	18.1	17.7	18.5	18.9
12H	17.2	18.0	17.6	18.4	18.8	17.4	18.3	17.9	18.7	19.1
8H 4H	16.4	17.3	16.8	17.7	18.1	16.6	17.5	17.0	17.8	18.2
6H	17.3	18.0	17.7	18.4	18.9	17.4	18.2	17.9	18.6	19.0
8H	17.6	18.3	18.1	18.7	19.2	17.8	18.5	18.3	18.9	19.4
12H	17.9	18.5	18.4	18.9	19.4	18.1	18.7	18.6	19.1	19.6
12H 4H	16.5	17.3	16.9	17.7	18.1	16.6	17.4	17.0	17.8	18.2
6H	17.4	18.0	17.8	18.4	18.9	17.5	18.2	18.0	18.6	19.1
8H	17.7	18.3	18.2	18.8	19.3	17.9	18.5	18.4	19.0	19.4
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, 3845 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 4.7$ )

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2019-07-18

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: GO-2000 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 6.200m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

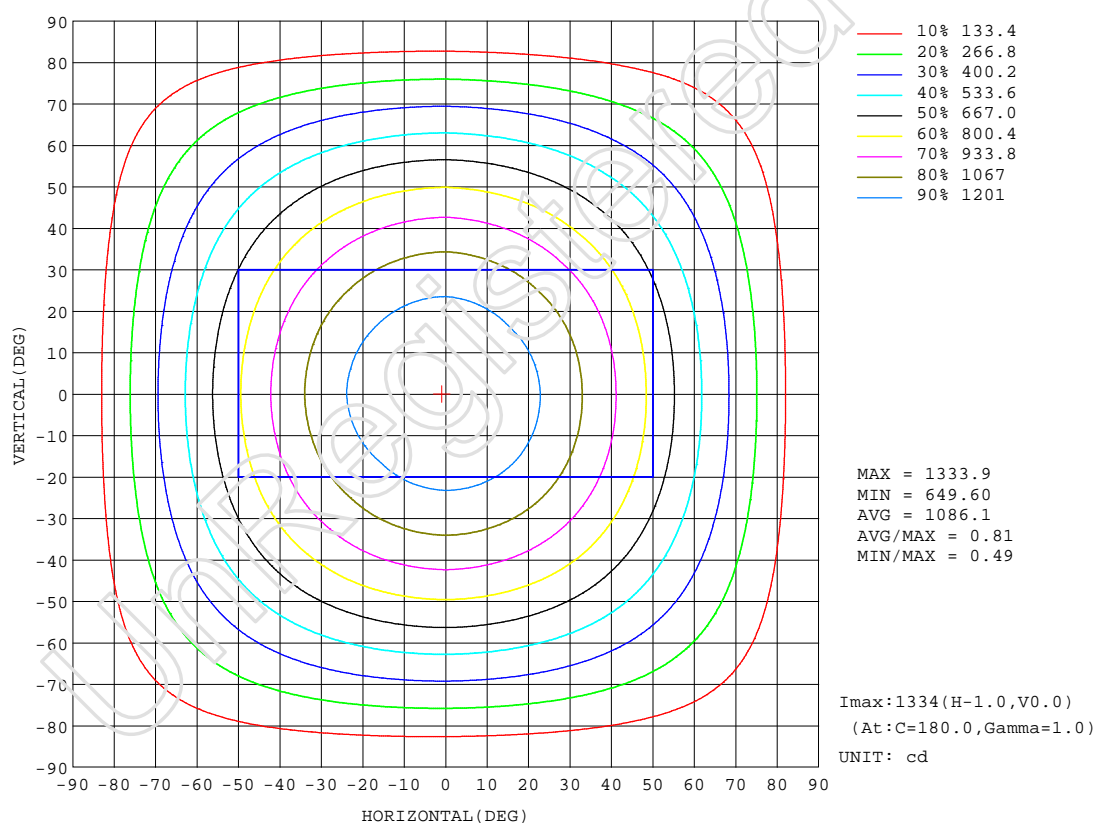
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	36	55	45	38	32
0.80	67	55	48	66	55	43	64	54	47	40
1.00	75	64	57	74	64	56	72	65	56	49
1.25	82	72	65	81	71	64	78	70	63	56
1.50	87	77	70	86	76	70	83	75	69	61
2.00	94	86	79	92	84	78	89	82	77	69
2.50	98	90	84	96	89	83	92	86	81	73
3.00	102	95	89	100	93	88	95	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	98	101	98	94	85
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:  
 Test Date: 2019-07-18

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: GO-2000 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 6.200m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



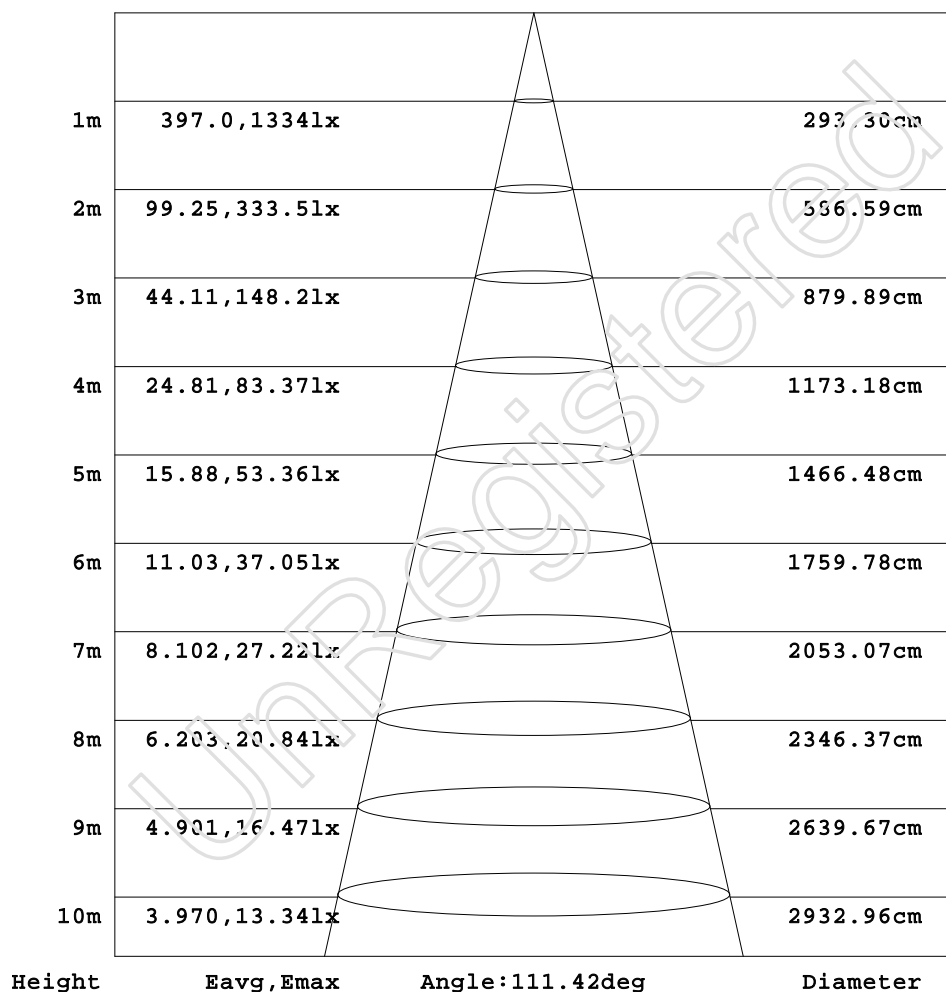
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2019-07-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: GO-2000 SYSTEM V2.0.401  
Humidity: 65.0%  
Test Distance: 6.200m [K=1.0000]  
Remarks:

## AAI Figure

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:2741 lm



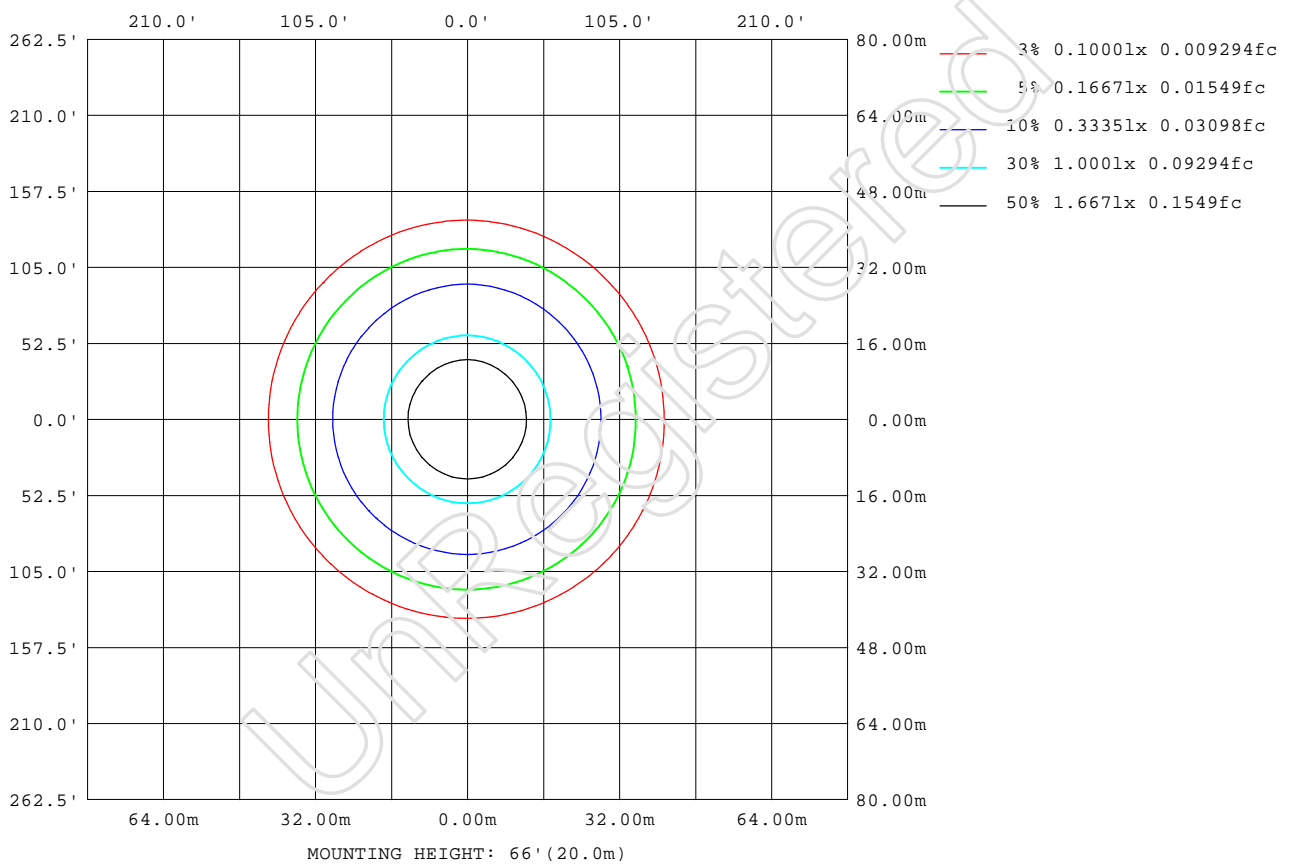
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2019-07-18

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: GO-2000 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 6.200m [K=1.0000]  
 Remarks:

## ISOLUX DIAGRAM

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2019-07-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: GO-2000 SYSTEM V2.0.401  
Humidity: 65.0%  
Test Distance: 6.200m [K=1.0000]  
Remarks:

## LED Avg.L Report

NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

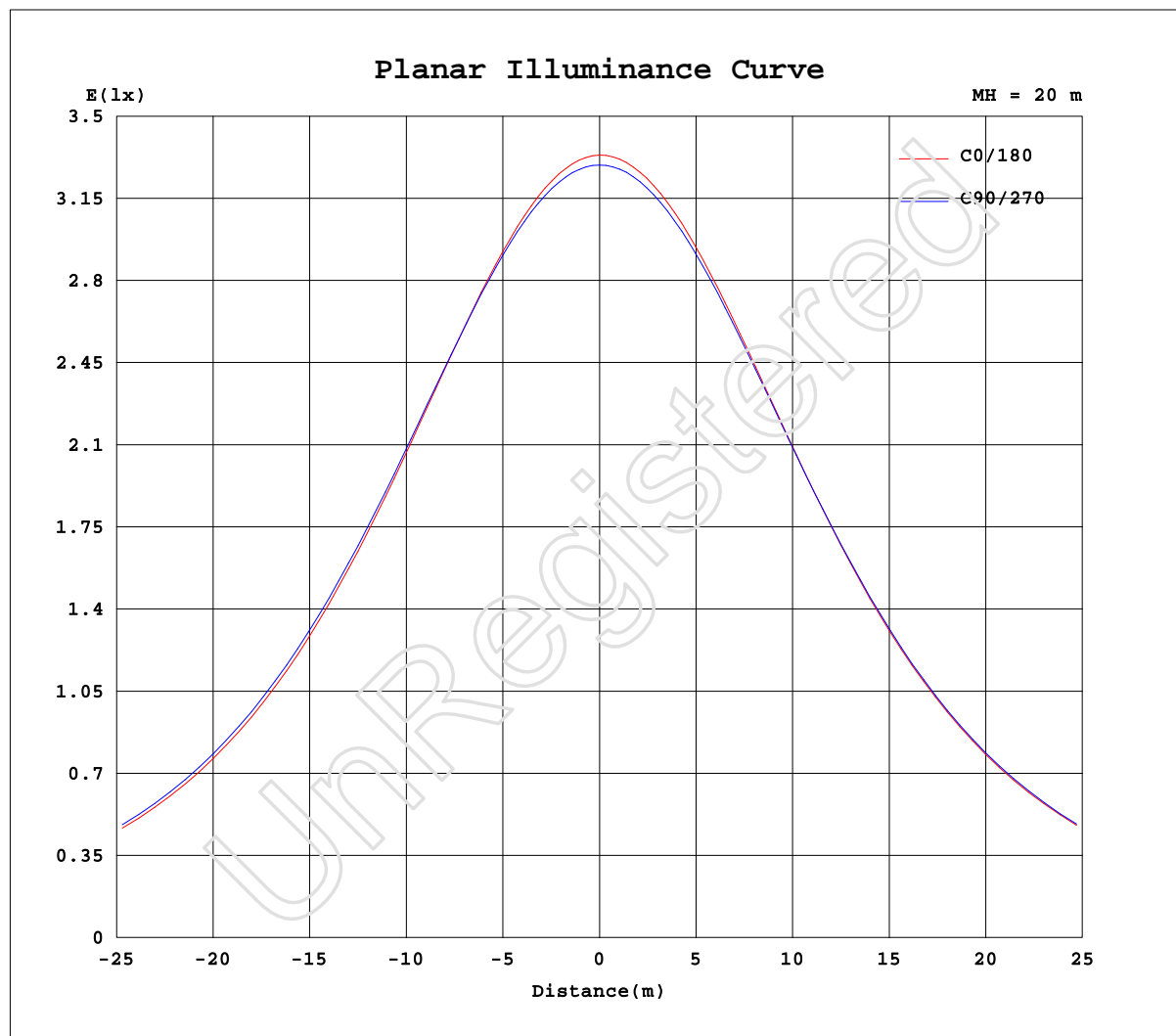
AvgL	cd/m2
L_0~180(65)av	3747
L_0~180(75)av	3560
L_0~180(85)av	3301
L_90~270(65)av	3379
L_90~270(75)av	3679
L_90~270(85)av	3412
L_45(65)av	3814
L_45(75)av	3616
L_45(85)av	3265

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2019-07-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: GO-2000 SYSTEM V2.0.401  
Humidity: 65.0%  
Test Distance: 6.200m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2019-07-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: GO-2000 SYSTEM V2.0.401  
Humidity: 65.0%  
Test Distance: 6.200m [K=1.0000]  
Remarks:

