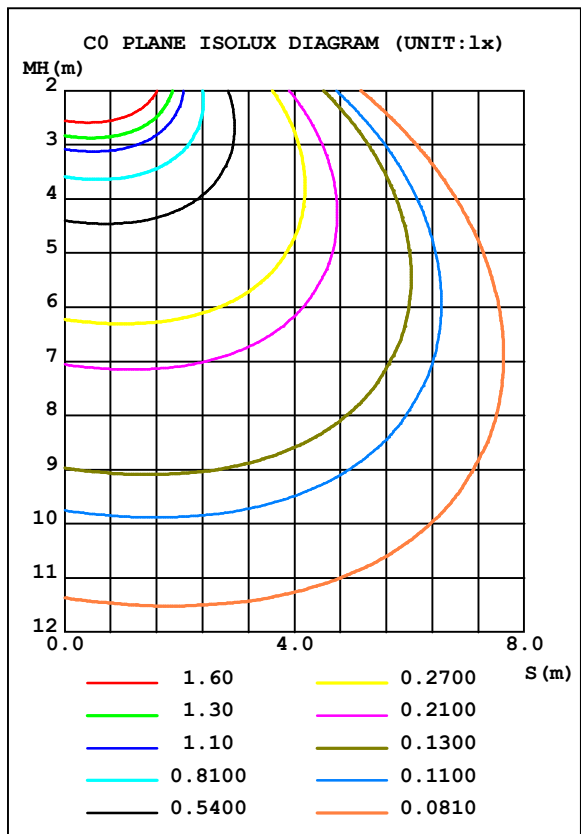
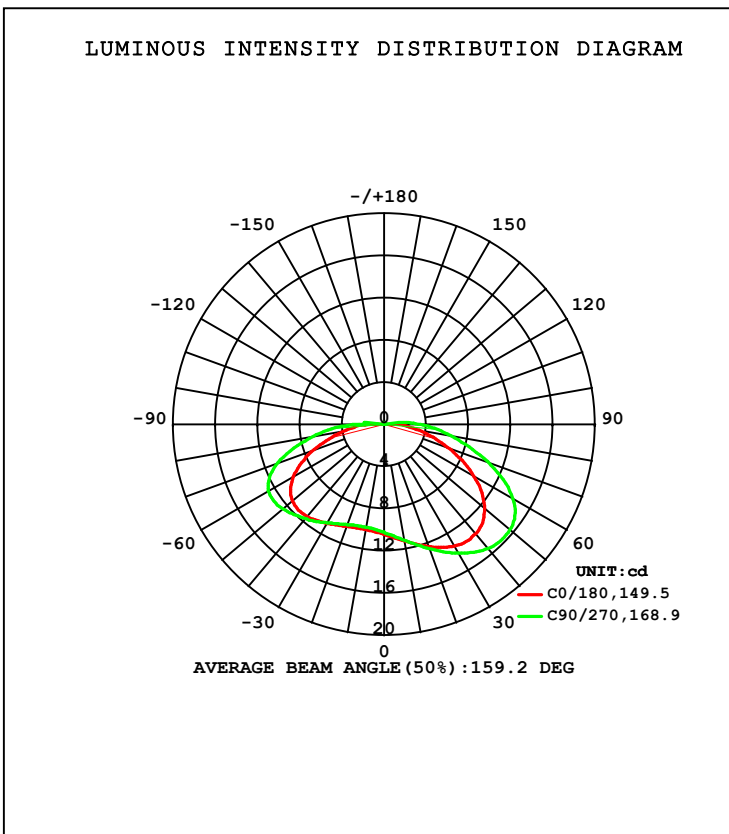


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 75.36 lm/W			
MODEL		I <sub>max</sub> (cd)	15.64	S/MH (C0/180)	1.65
NOMINAL POWER (W)	0.8	LOR (%)	100.0	S/MH (C90/270)	1.72
RATED VOLTAGE (V)	12	TOTAL FLUX (lm)	61.845	η UP, DN (C0-180)	1.4, 51.2
NOMINAL FLUX (lm)	61.8469	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.1, 46.2
LAMPS INSIDE	1	η up (%)	2.5	CIBSE SHR NOM	2.00
TEST VOLTAGE (V)	12	η down (%)	97.5	CIBSE SHR MAX	2.00



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: LHY  
 Test Date: 2021-10-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 9.727m [K=1.0000]  
 Remarks:

### ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

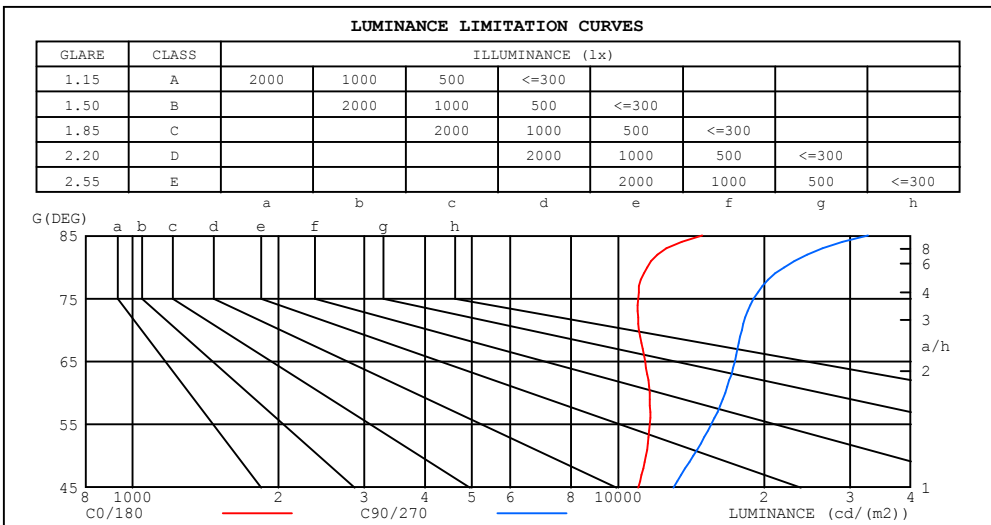
$\gamma$	C0	C90	C180	C270					$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	11.25	11.17	10.15	9.922					0- 10	1.001	1.001	1.62,1.62
20	12.33	12.55	10.30	10.13					10- 20	3.113	4.114	6.65,6.65
30	13.33	14.12	10.86	10.79					20- 30	5.474	9.588	15.5,15.5
40	13.55	15.37	11.41	11.66					30- 40	7.976	17.56	28.4,28.4
50	12.45	15.58	11.34	12.51					40- 50	10.12	27.69	44.8,44.8
60	9.867	14.13	9.950	12.67					50- 60	11.16	38.84	62.8,62.8
70	6.412	10.45	7.077	10.72					60- 70	10.17	49.02	79.3,79.3
80	3.390	6.481	3.953	6.892					70- 80	7.274	56.29	91,91
90	0.9575	3.475	0.4290	2.419					80- 90	3.982	60.27	97.5,97.5
100	0.0179	0.0367	0.0122	0.0569					90-100	1.036	61.31	99.1,99.1
110	0.0425	0.0911	0.0427	0.0672					100-110	0.0531	61.36	99.2,99.2
120	0.0972	0.1092	0.0985	0.0913					110-120	0.0758	61.44	99.3,99.3
130	0.1483	0.1214	0.1580	0.1130					120-130	0.1047	61.54	99.5,99.5
140	0.1700	0.1397	0.1665	0.1323					130-140	0.1114	61.65	99.7,99.7
150	0.0790	0.1284	0.0972	0.1279					140-150	0.0825	61.74	99.8,99.8
160	0.1470	0.1881	0.1774	0.1886					150-160	0.0607	61.80	99.9,99.9
170	0.0911	0.0729	0.0972	0.0912					160-170	0.0390	61.84	100,100
180	0.0911	0.0790	0.0972	0.0851					170-180	0.0086	61.85	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LHY  
 Test Date:2021-10-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.727m [K=1.0000]  
 Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	Shielding Angle:



LUMINANCE cd/ (m2)		
G (DEG)	C0/180	C90/270
85	14886	32708
80	11484	21954
75	10992	18993
70	11028	17975
65	11357	17364
60	11608	16620
55	11621	15553
50	11396	14261
45	10988	13004

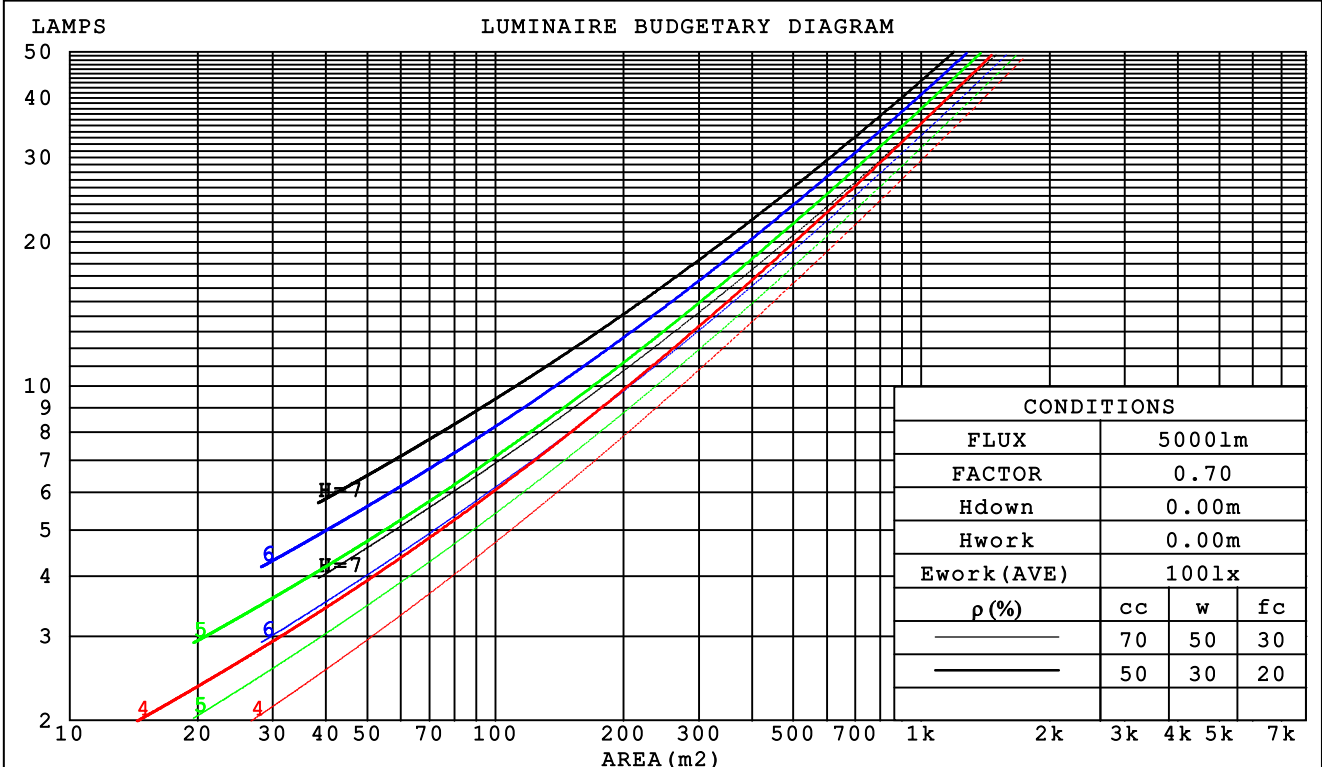
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LHY  
 Test Date:2021-10-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.727m [K=1.0000]  
 Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	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	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	1.04	1.04	1.04	.00	.00	.00	.97
1.0	.99	.93	.88	.96	.91	.86	.91	.87	.83	.87	.83	.80	.82	.80	.77	.75
2.0	.83	.75	.68	.81	.73	.67	.77	.70	.65	.73	.68	.63	.69	.65	.61	.58
3.0	.71	.62	.54	.69	.60	.53	.66	.58	.52	.63	.56	.50	.60	.54	.49	.47
4.0	.62	.52	.44	.60	.51	.43	.57	.49	.42	.54	.47	.41	.52	.46	.41	.38
5.0	.54	.44	.36	.53	.43	.36	.50	.42	.35	.48	.41	.35	.46	.39	.34	.32
6.0	.48	.38	.31	.47	.38	.31	.45	.36	.30	.43	.35	.30	.41	.34	.29	.27
7.0	.43	.33	.27	.42	.33	.26	.40	.32	.26	.39	.31	.26	.37	.30	.25	.23
8.0	.39	.30	.23	.38	.29	.23	.36	.28	.23	.35	.28	.22	.34	.27	.22	.20
9.0	.35	.26	.20	.35	.26	.20	.33	.25	.20	.32	.25	.20	.31	.24	.19	.17
10.0	.32	.24	.18	.32	.24	.18	.31	.23	.18	.29	.22	.18	.28	.22	.17	.15



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LHY  
Test Date:2021-10-21

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:9.727m [K=1.0000]  
Remarks:

**WEC AND CCEC**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	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						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.400	.228	.072	.392	.224	.071	.377	.216	.069	.363	.209	.067	.350	.203	.065	
2.0	.355	.195	.060	.348	.192	.059	.334	.186	.058	.322	.181	.057	.310	.175	.055	
3.0	.318	.169	.051	.312	.167	.050	.299	.162	.049	.288	.158	.048	.278	.154	.048	
4.0	.287	.149	.044	.281	.147	.043	.270	.143	.043	.260	.140	.042	.251	.136	.041	
5.0	.261	.133	.038	.255	.131	.038	.246	.128	.038	.237	.125	.037	.228	.122	.037	
6.0	.238	.119	.034	.234	.118	.034	.225	.115	.034	.217	.113	.033	.209	.110	.033	
7.0	.219	.108	.031	.215	.107	.031	.207	.105	.030	.200	.103	.030	.193	.100	.030	
8.0	.203	.099	.028	.199	.098	.028	.192	.096	.027	.186	.094	.027	.179	.092	.027	
9.0	.189	.091	.025	.185	.090	.025	.179	.089	.025	.173	.087	.025	.167	.085	.025	
10.0	.176	.084	.023	.173	.084	.023	.167	.082	.023	.162	.080	.023	.157	.079	.023	

$\rho_{cc}$	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						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.210	.210	.210	.179	.179	.179	.122	.122	.122	.070	.070	.070	.022	.022	.022	
1.0	.206	.175	.147	.176	.150	.126	.121	.103	.087	.069	.060	.051	.022	.019	.016	
2.0	.200	.151	.110	.172	.130	.095	.118	.090	.066	.068	.052	.039	.022	.017	.013	
3.0	.194	.134	.087	.166	.116	.076	.114	.081	.053	.066	.047	.031	.021	.015	.010	
4.0	.186	.122	.073	.160	.105	.063	.110	.073	.044	.063	.043	.026	.020	.014	.009	
5.0	.178	.112	.063	.153	.097	.054	.105	.068	.038	.061	.040	.023	.020	.013	.008	
6.0	.171	.104	.056	.147	.090	.048	.101	.063	.034	.059	.037	.020	.019	.012	.007	
7.0	.163	.097	.050	.140	.084	.044	.097	.059	.031	.056	.035	.019	.018	.011	.006	
8.0	.156	.091	.047	.134	.079	.041	.093	.056	.029	.054	.033	.017	.018	.011	.006	
9.0	.149	.086	.044	.129	.075	.038	.089	.053	.027	.052	.031	.016	.017	.010	.005	
10.0	.143	.082	.041	.123	.071	.036	.086	.050	.026	.050	.030	.015	.016	.010	.005	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LHY  
 Test Date:2021-10-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.727m [K=1.0000]  
 Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm										
NAME: 40*10					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:0.05			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	31.4	33.1	31.8	33.4	33.7	32.7	34.4	33.0	34.7	35.0
3H	33.1	34.7	33.5	35.0	35.3	35.0	36.5	35.3	36.8	37.1
4H	33.9	35.4	34.2	35.7	36.0	36.0	37.5	36.3	37.8	38.1
6H	34.5	35.9	34.9	36.2	36.6	37.0	38.4	37.3	38.7	39.1
8H	34.7	36.1	35.1	36.5	36.8	37.5	38.8	37.9	39.2	39.5
12H	35.0	36.3	35.4	36.7	37.1	38.0	39.3	38.4	39.7	40.1
4H 2H	32.4	33.9	32.7	34.2	34.5	33.3	34.8	33.7	35.1	35.5
3H	34.3	35.6	34.7	36.0	36.3	35.7	37.1	36.1	37.4	37.8
4H	35.1	36.4	35.6	36.7	37.1	36.9	38.1	37.3	38.5	38.9
6H	35.9	37.0	36.4	37.4	37.9	38.1	39.2	38.5	39.6	40.0
8H	36.3	37.3	36.7	37.7	38.2	38.7	39.7	39.1	40.1	40.6
12H	36.6	37.6	37.1	38.0	38.5	39.3	40.3	39.8	40.7	41.2
8H 4H	35.7	36.7	36.2	37.1	37.6	37.2	38.2	37.6	38.6	39.1
6H	36.7	37.6	37.2	38.1	38.5	38.6	39.5	39.1	39.9	40.4
8H	37.2	38.0	37.7	38.5	39.0	39.3	40.1	39.8	40.6	41.1
12H	37.7	38.4	38.3	38.9	39.5	40.2	40.9	40.7	41.4	41.9
12H 4H	35.8	36.8	36.3	37.2	37.7	37.2	38.2	37.7	38.6	39.1
6H	36.9	37.7	37.5	38.2	38.7	38.7	39.5	39.2	39.9	40.5
8H	37.5	38.2	38.1	38.7	39.3	39.5	40.2	40.0	40.7	41.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.1				
1.5H	+ 0.3 / - 0.4					+ 0.2 / - 0.2				
2.0H	+ 0.2 / - 0.5					+ 0.2 / - 0.4				

CIE Pub.117, 61.85 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -9.7)

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LHY  
 Test Date:2021-10-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.727m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	Shielding Angle:

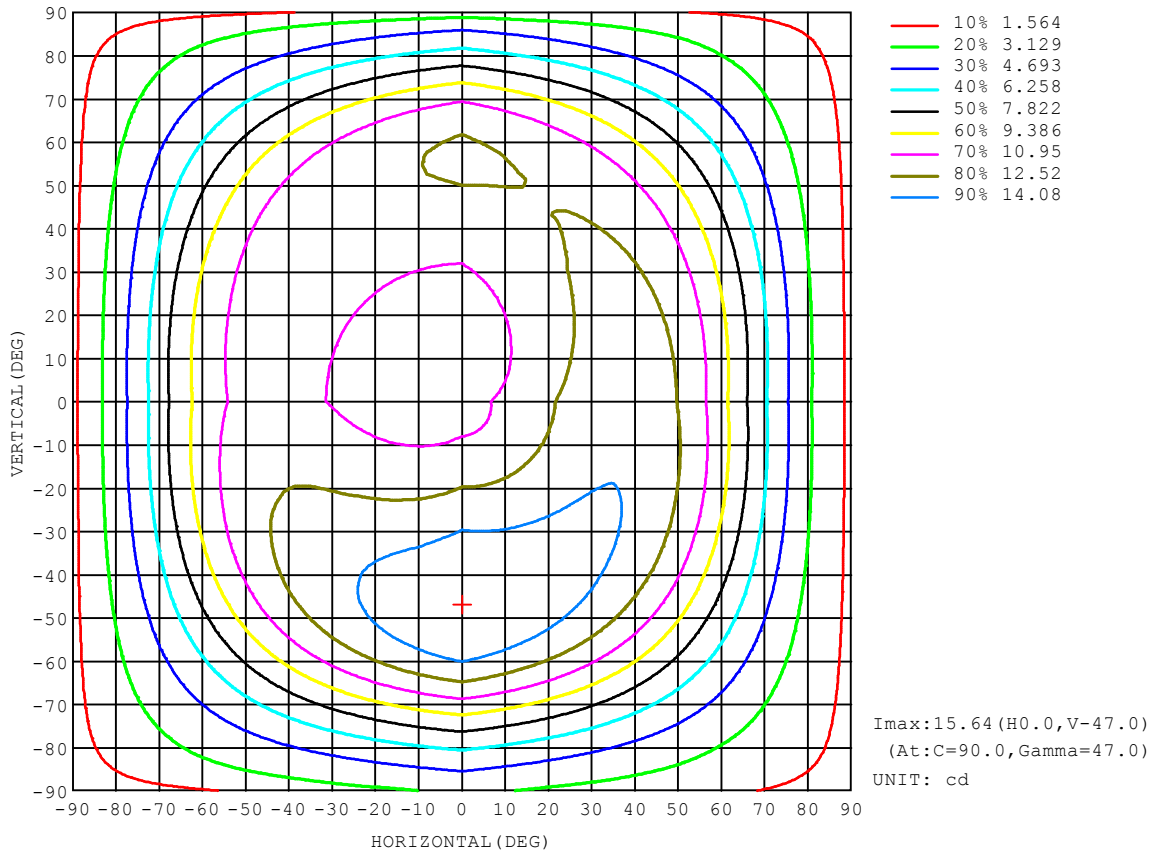
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) k(RI) x RCR = 5									
k = 0.60	48	35	27	47	35	27	46	34	27	20
0.80	58	44	36	57	44	36	55	43	35	27
1.00	67	53	45	65	53	44	62	54	44	35
1.25	74	61	52	72	60	52	69	59	51	42
1.50	79	67	59	78	66	58	74	64	57	48
2.00	87	76	68	85	75	67	81	73	66	56
2.50	92	82	74	90	81	73	85	78	71	61
3.00	96	87	80	94	85	79	89	82	76	66
4.00	101	93	87	98	91	86	93	88	83	72
5.00	104	98	92	101	95	90	96	91	87	76
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:LHY  
 Test Date:2021-10-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.727m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	Shielding Angle:



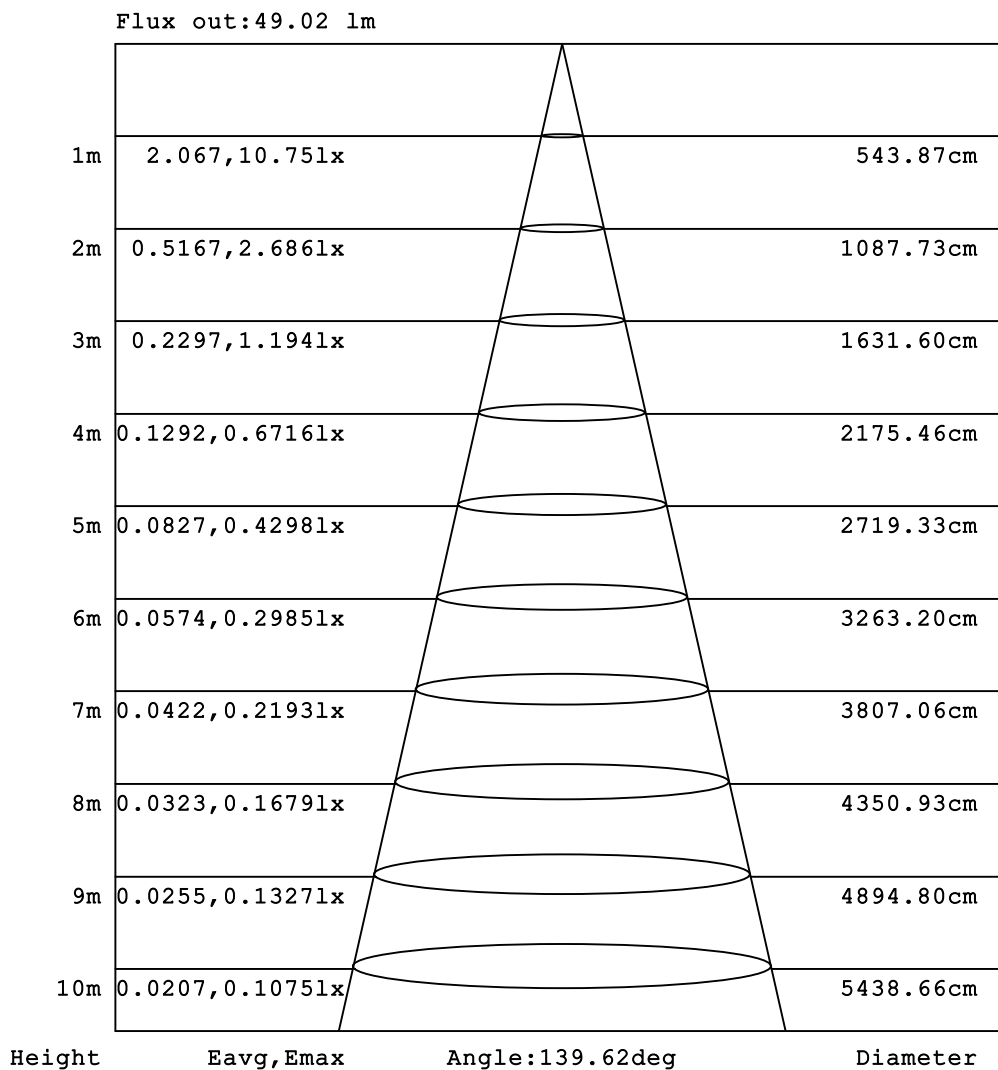
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LHY  
 Test Date:2021-10-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.727m [K=1.0000]  
 Remarks:



**AAI Figure**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	Shielding Angle:



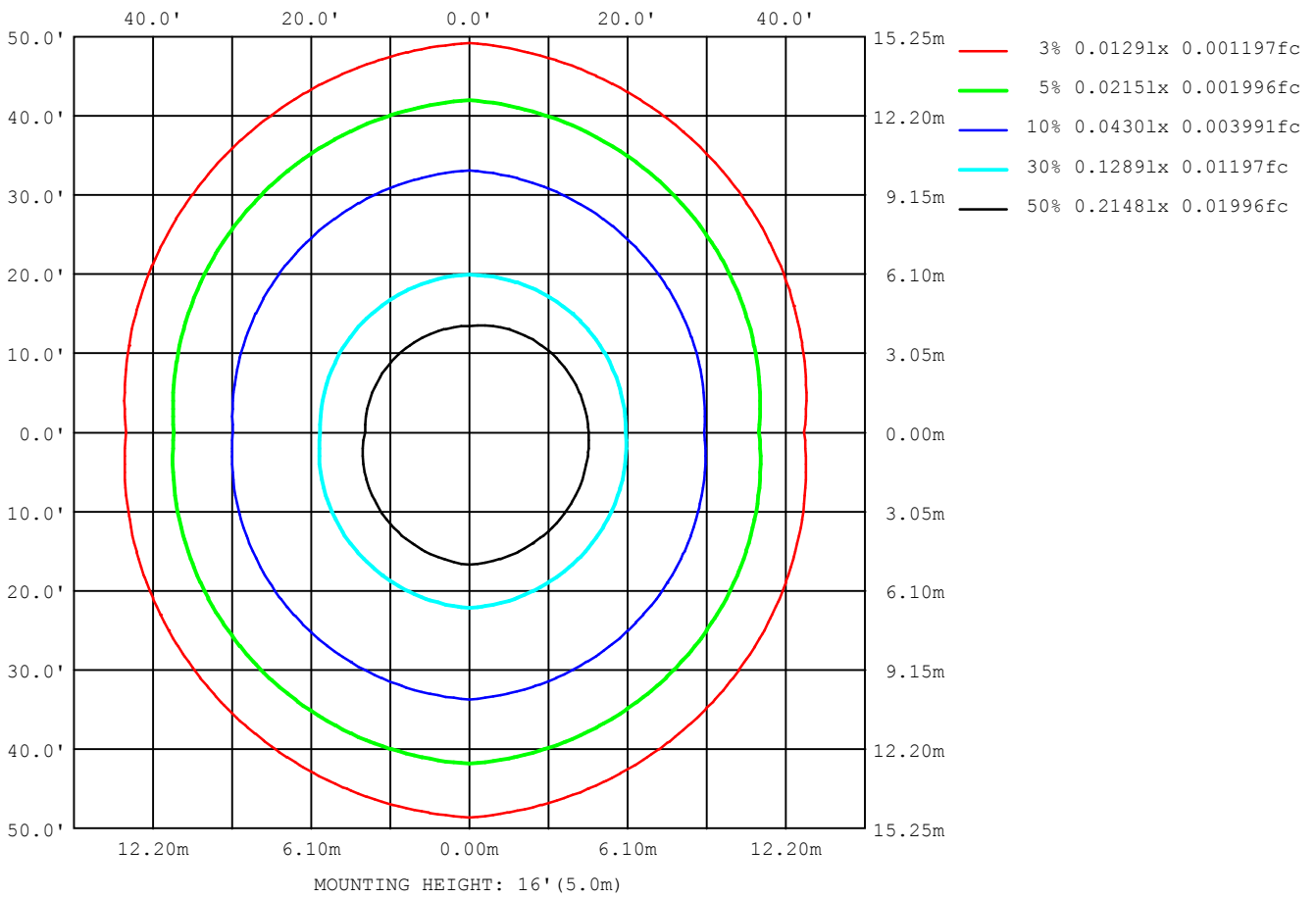
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LHY  
Test Date:2021-10-21

γ Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:9.727m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LHY  
Test Date:2021-10-21

γ Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:9.727m [K=1.0000]  
Remarks:

**LED Avg.L Report**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	Shielding Angle:

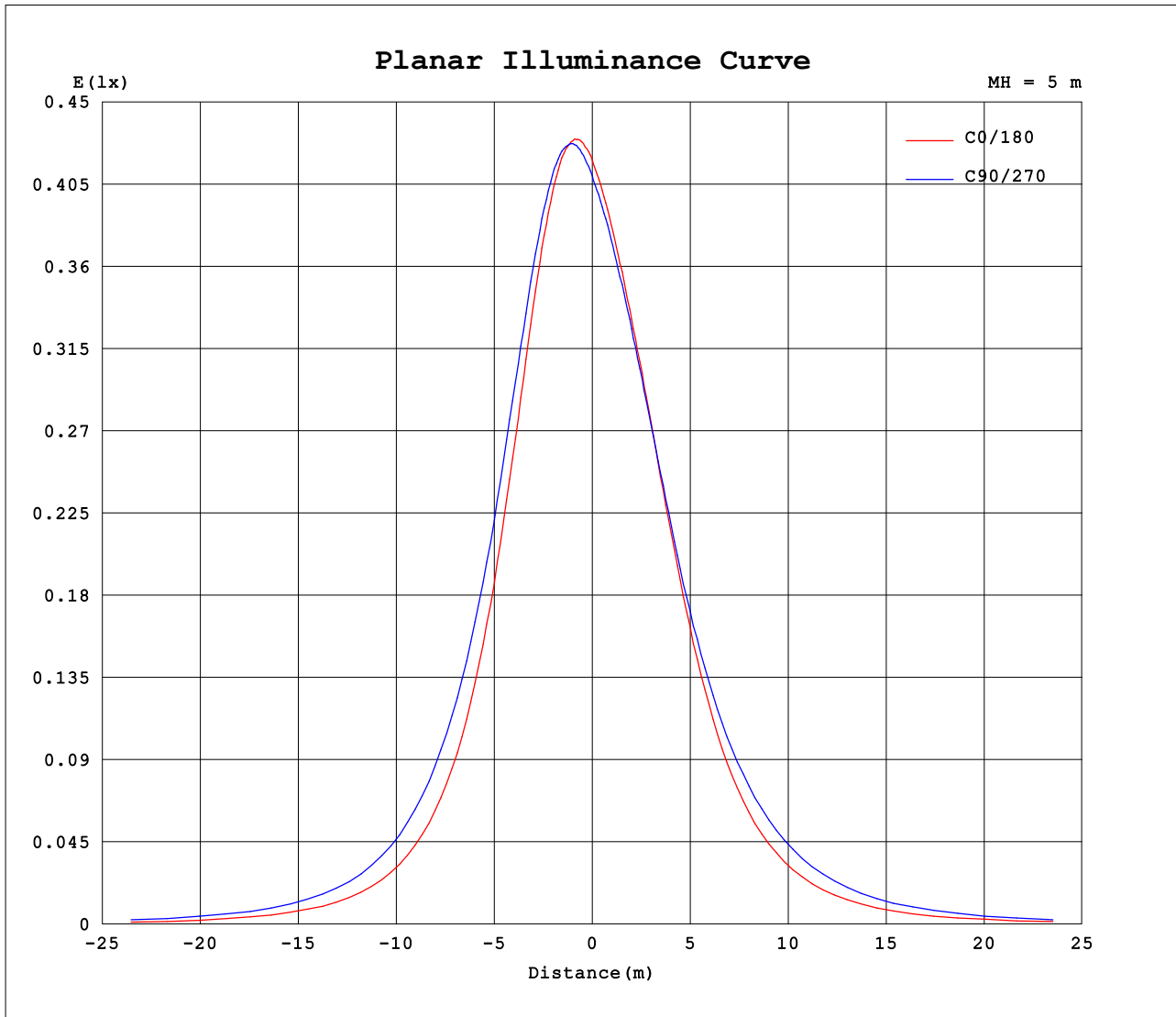
AvgL	cd/m2
L_0~180 (65) av	11700
L_0~180 (75) av	11659
L_0~180 (85) av	16552
L_90~270 (65) av	17045
L_90~270 (75) av	19564
L_90~270 (85) av	33369
L_45 (65) av	15062
L_45 (75) av	16641
L_45 (85) av	27167

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LHY  
Test Date:2021-10-21

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:9.727m [K=1.0000]  
Remarks:

**Planar Illuminance Curve**



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: LHY  
 Test Date: 2021-10-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 9.727m [K=1.0000]  
 Remarks:

**LUMINOUS DISTRIBUTION INTENSITY DATA**

Test:U:11.998V I:0.0684A P:0.8207W PF:1.0000 Freq:49.99Hz Lamp Flux:61.8469x1 lm		
NAME: 40*10	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:0.05	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270																
0	10.5	10.2	10.5	10.2																
5	10.8	10.6	10.2	10.0																
10	11.3	11.2	10.1	9.92																
15	11.8	11.8	10.2	9.95																
20	12.3	12.5	10.3	10.1																
25	12.9	13.3	10.5	10.4																
30	13.3	14.1	10.9	10.8																
35	13.6	14.8	11.2	11.3																
40	13.6	15.4	11.4	11.7																
45	13.2	15.6	11.5	12.1																
50	12.5	15.6	11.3	12.5																
55	11.3	15.2	10.8	12.8																
60	9.87	14.1	9.95	12.7																
65	8.16	12.5	8.65	12.0																
70	6.41	10.5	7.08	10.7																
75	4.84	8.36	5.42	8.86																
80	3.39	6.48	3.95	6.89																
85	2.21	4.85	2.70	5.04																
90	0.96	3.47	0.43	2.42																
95	0.00	2.39	0.00	1.80																
100	0.02	0.04	0.01	0.06																
105	0.04	0.06	0.02	0.05																
110	0.04	0.09	0.04	0.07																
115	0.07	0.09	0.07	0.08																
120	0.10	0.11	0.10	0.09																
125	0.13	0.12	0.13	0.10																
130	0.15	0.12	0.16	0.11																
135	0.16	0.13	0.17	0.12																
140	0.17	0.14	0.17	0.13																
145	0.12	0.12	0.16	0.13																
150	0.08	0.13	0.10	0.13																
155	0.12	0.12	0.12	0.12																
160	0.15	0.19	0.18	0.19																
165	0.11	0.15	0.15	0.15																
170	0.09	0.07	0.10	0.09																
175	0.09	0.09	0.10	0.09																
180	0.09	0.08	0.10	0.09																

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LHY  
 Test Date:2021-10-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:GO-2000A\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:9.727m [K=1.0000]  
 Remarks: