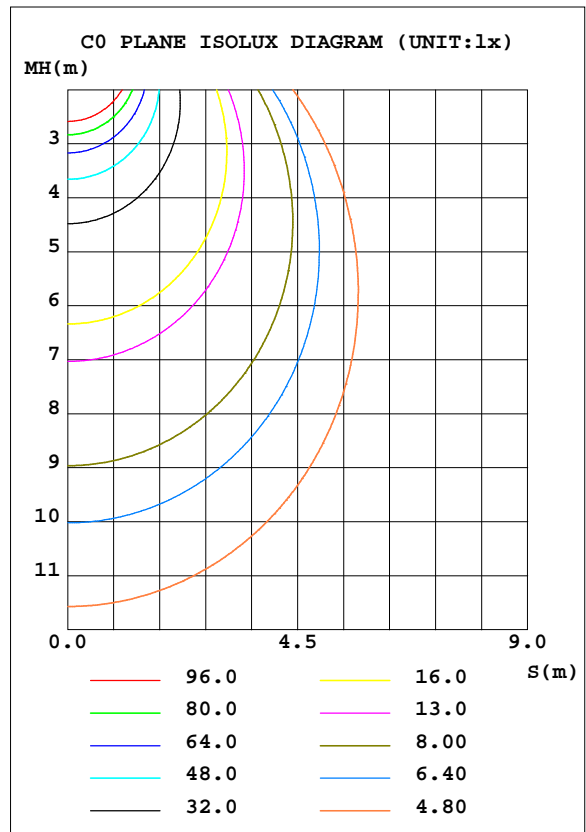
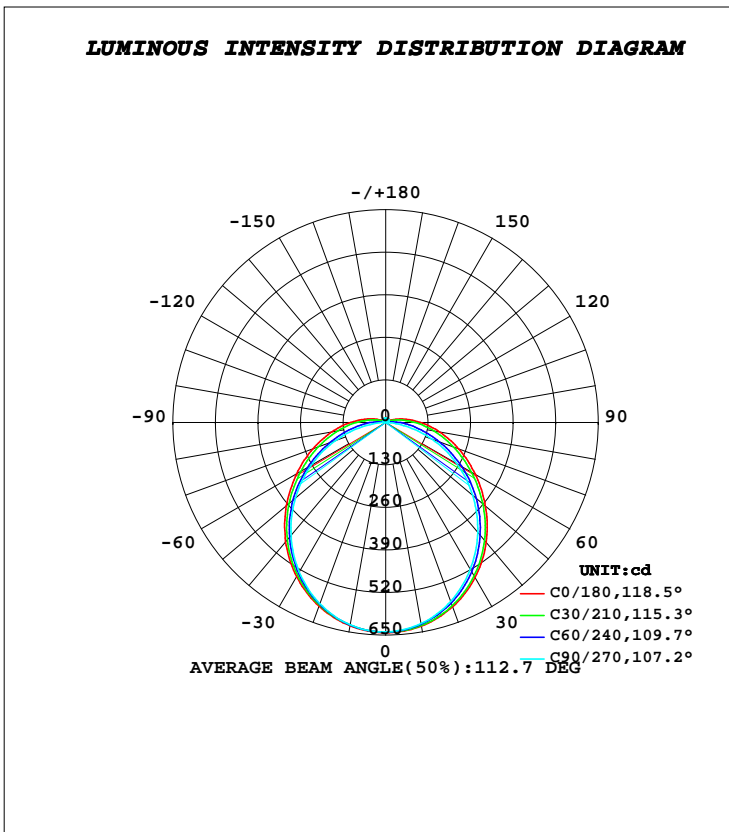


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	0.6M-22W-3000K	Imax(cd)	642.5	S/MH(C0/180)	1.27
NOMINAL POWER(W)	22	LOR(%)	100.0	S/MH(C90/270)	1.21
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	2039.3	η UP, DN(C0-180)	2.7,46.4
NOMINAL FLUX(lm)	2039.27	CIE CLASS	DIRECT	η UP, DN(C180-360)	3.0,47.8
LAMPS INSIDE	1	η up(%)	5.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.1	η down(%)	94.3	CIBSE SHR MAX	1.35



**C Range: 0 - 360DEG**  
**C Interval: 30.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:DAMIN**  
**Test Date:2018-01-13**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.267**  
**Humidity:65.0%**  
**Test Distance:8.000m [K=0.7063]**  
**Remarks:**

**ZONAL FLUX DIAGRAM**

**ZONAL FLUX DIAGRAM:**

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	631.7	628.0	623.9	622.8	630.6	628.5	627.6	629.9	0- 10	60.52	60.52	2.97,2.97
20	599.2	591.2	581.6	582.8	597.2	592.6	589.1	596.4	10- 20	172.7	233.2	11.4,11.4
30	546.8	533.7	517.8	522.5	544.5	536.0	528.4	541.4	20- 30	260.2	493.5	24.2,24.2
40	478.1	459.8	437.9	446.6	476.1	462.7	450.0	469.3	30- 40	311.9	805.4	39.5,39.5
50	398.0	374.8	347.8	360.1	397.1	378.2	360.8	385.3	40- 50	322.8	1128	55.3,55.3
60	316.1	284.8	251.1	269.5	314.4	287.6	263.9	294.0	50- 60	295.2	1423	69.8,69.8
70	238.0	198.2	151.3	182.7	236.9	200.8	163.9	205.4	60- 70	238.2	1661	81.5,81.5
80	166.6	123.0	56.54	108.5	167.3	124.9	66.46	127.3	70- 80	165.5	1827	89.6,89.6
90	107.2	65.95	4.024	54.99	108.1	66.86	5.929	67.64	80- 90	95.47	1922	94.3,94.3
100	59.80	29.93	5.234	23.64	61.56	30.93	6.071	30.64	90-100	48.49	1971	96.6,96.6
110	27.23	12.51	6.458	10.87	28.99	13.77	7.225	13.86	100-110	22.43	1993	97.7,97.7
120	10.89	8.388	7.863	8.112	12.57	9.209	8.535	9.136	110-120	11.05	2004	98.3,98.3
130	9.660	9.556	9.295	9.494	10.52	10.12	9.846	10.11	120-130	8.322	2013	98.7,98.7
140	10.92	10.88	10.71	10.83	11.54	11.28	11.11	11.27	130-140	8.080	2021	99.1,99.1
150	12.10	12.12	12.02	12.05	12.51	12.33	12.28	12.37	140-150	7.303	2028	99.5,99.5
160	13.29	13.28	13.26	13.20	13.52	13.33	13.33	13.38	150-160	5.896	2034	99.7,99.7
170	14.35	14.27	14.22	14.20	14.41	14.20	14.18	14.23	160-170	3.898	2038	99.9,99.9
180	14.76	14.60	14.53	14.59	14.79	14.60	14.53	14.59	170-180	1.376	2039	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

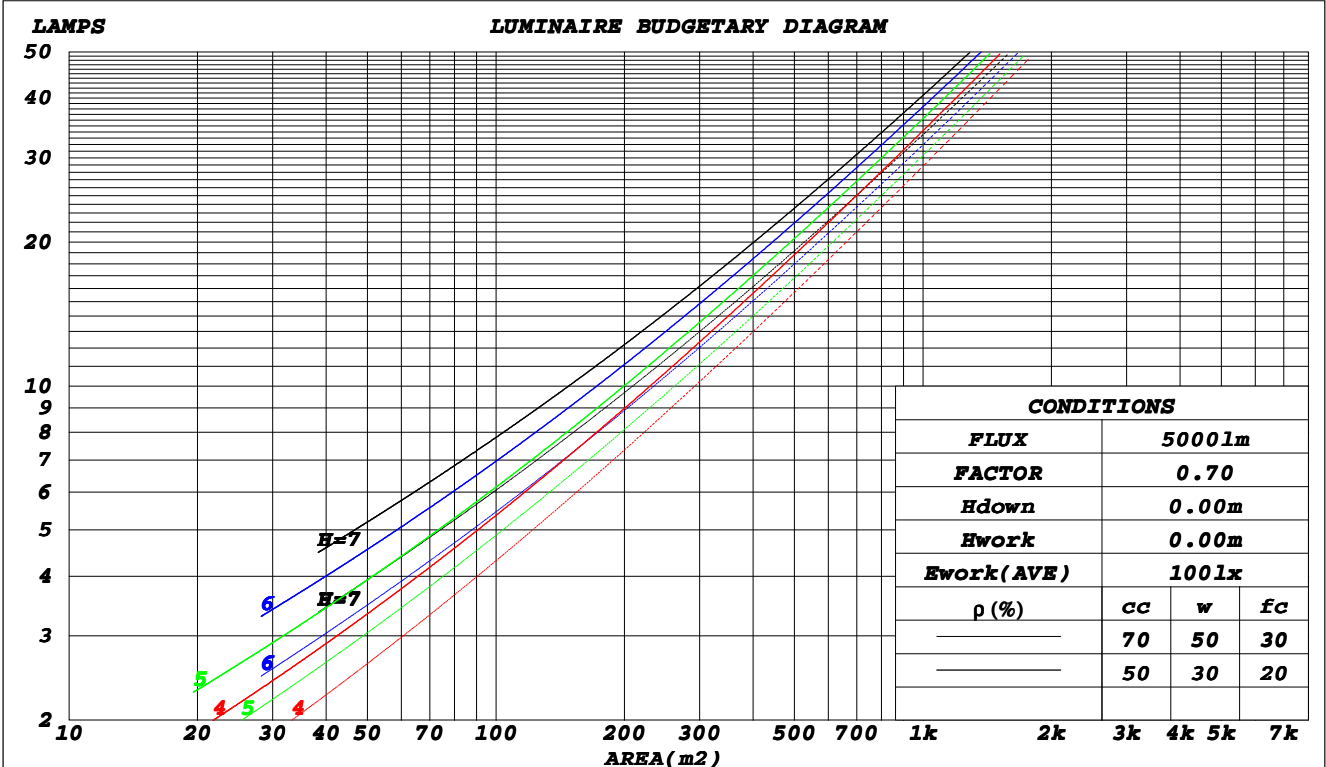
**C Range: 0 - 360DEG**  
**C Interval: 30.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:DAMIN**  
**Test Date:2018-01-13**

**$\gamma$  Range: 0 - 180DEG**  
 **$\gamma$  Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.267**  
**Humidity:65.0%**  
**Test Distance:8.000m [K=0.7063]**  
**Remarks:**

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		

ρcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw	0															
ρfc	0															
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.97	.97	.97	.94
1.0	1.01	.96	.92	.98	.93	.90	.92	.89	.86	.88	.85	.82	.83	.81	.79	.76
2.0	.87	.80	.74	.85	.78	.72	.80	.75	.70	.76	.71	.67	.72	.68	.65	.62
3.0	.76	.68	.61	.74	.66	.60	.70	.64	.58	.67	.61	.56	.63	.59	.55	.52
4.0	.67	.58	.51	.66	.57	.51	.62	.55	.49	.59	.53	.48	.57	.51	.47	.44
5.0	.60	.51	.44	.59	.50	.44	.56	.48	.43	.53	.47	.42	.51	.45	.41	.38
6.0	.54	.45	.38	.53	.44	.38	.50	.43	.37	.48	.41	.36	.46	.40	.36	.33
7.0	.49	.40	.34	.48	.39	.33	.46	.38	.33	.44	.37	.32	.42	.36	.32	.29
8.0	.45	.36	.30	.44	.36	.30	.42	.35	.29	.40	.34	.29	.39	.33	.28	.26
9.0	.41	.33	.27	.40	.32	.27	.39	.31	.26	.37	.31	.26	.36	.30	.25	.24
10.0	.38	.30	.24	.37	.29	.24	.36	.29	.24	.34	.28	.24	.33	.27	.23	.21



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2018-01-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.267  
 Humidity: 65.0%  
 Test Distance: 8.000m [K=0.7063]  
 Remarks:

WEC AND CCEC

Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		

$\rho_{cc}$	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
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Wall Exitance Coefficients(WEC)</b>									
0.0																
1.0	.344	.196	.062	.335	.191	.061	.319	.183	.058	.303	.175	.056	.289	.168	.054	
2.0	.310	.170	.052	.302	.166	.051	.287	.160	.050	.274	.153	.048	.261	.148	.047	
3.0	.281	.150	.045	.274	.147	.044	.261	.141	.043	.248	.136	.042	.237	.131	.041	
4.0	.256	.133	.039	.250	.131	.039	.238	.126	.038	.227	.122	.037	.217	.118	.036	
5.0	.235	.120	.035	.229	.118	.034	.219	.114	.034	.209	.110	.033	.200	.107	.032	
6.0	.217	.109	.031	.212	.107	.031	.202	.104	.030	.193	.100	.030	.185	.097	.029	
7.0	.201	.099	.028	.196	.098	.028	.188	.095	.027	.180	.092	.027	.172	.089	.026	
8.0	.187	.091	.026	.183	.090	.025	.175	.088	.025	.168	.085	.025	.161	.083	.024	
9.0	.175	.085	.024	.171	.083	.023	.164	.081	.023	.157	.079	.023	.151	.077	.022	
10.0	.164	.079	.022	.161	.078	.022	.154	.076	.021	.148	.074	.021	.142	.072	.021	

$\rho_{cc}$	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
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Ceiling Cavity Exitance Coefficients(CCEC)</b>									
0.0	.234	.234	.234	.200	.200	.200	.137	.137	.137	.078	.078	.078	.025	.025	.025	
1.0	.227	.200	.176	.194	.172	.151	.133	.118	.105	.076	.068	.061	.024	.022	.020	
2.0	.219	.176	.140	.188	.152	.121	.129	.105	.084	.074	.061	.050	.024	.020	.016	
3.0	.211	.159	.117	.181	.137	.102	.124	.095	.071	.072	.056	.042	.023	.018	.014	
4.0	.203	.146	.102	.174	.126	.089	.120	.088	.062	.069	.051	.037	.022	.017	.012	
5.0	.196	.136	.091	.168	.117	.079	.116	.082	.056	.067	.048	.033	.022	.016	.011	
6.0	.188	.127	.084	.162	.110	.073	.112	.077	.052	.065	.045	.031	.021	.015	.010	
7.0	.181	.121	.078	.156	.105	.068	.108	.073	.048	.063	.043	.029	.020	.014	.009	
8.0	.175	.115	.074	.150	.100	.064	.104	.070	.046	.061	.041	.027	.020	.014	.009	
9.0	.169	.110	.070	.145	.095	.061	.101	.067	.044	.059	.040	.026	.019	.013	.009	
10.0	.163	.106	.068	.140	.092	.059	.097	.065	.042	.057	.038	.025	.018	.013	.008	

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-01-13

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.267  
 Humidity:65.0%  
 Test Distance:8.000m [K=0.7063]  
 Remarks:

**Uncorrected UGR Table**

Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		

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	19.3	20.8	19.7	21.1	21.4	18.4	19.9	18.7	20.2	20.5
3H	21.3	22.7	21.7	23.0	23.4	19.8	21.2	20.2	21.5	21.9
4H	22.4	23.7	22.8	24.1	24.4	20.4	21.7	20.8	22.0	22.4
6H	23.5	24.7	23.9	25.1	25.5	20.7	22.0	21.2	22.3	22.7
8H	24.1	25.3	24.5	25.7	26.1	20.8	22.0	21.3	22.4	22.8
12H	24.8	25.9	25.2	26.3	26.8	20.9	22.0	21.3	22.4	22.8
4H 2H	19.9	21.2	20.3	21.5	21.9	19.2	20.5	19.6	20.8	21.2
3H	22.1	23.3	22.6	23.7	24.1	20.8	21.9	21.2	22.3	22.8
4H	23.4	24.4	23.8	24.8	25.3	21.5	22.5	22.0	23.0	23.4
6H	24.7	25.6	25.2	26.1	26.6	22.0	23.0	22.5	23.4	23.9
8H	25.4	26.3	25.9	26.7	27.3	22.2	23.1	22.7	23.5	24.0
12H	26.2	27.0	26.7	27.5	28.0	22.3	23.1	22.8	23.6	24.1
8H 4H	23.7	24.5	24.2	25.0	25.5	22.1	22.9	22.6	23.4	23.9
6H	25.3	26.0	25.8	26.5	27.0	22.8	23.6	23.4	24.1	24.6
8H	26.2	26.8	26.7	27.3	27.9	23.2	23.8	23.7	24.3	24.9
12H	27.2	27.8	27.8	28.3	28.9	23.4	24.0	24.0	24.5	25.1
12H 4H	23.7	24.5	24.2	25.0	25.5	22.2	23.0	22.7	23.5	24.0
6H	25.3	26.0	25.9	26.5	27.1	23.1	23.8	23.7	24.3	24.9
8H	26.3	26.9	26.9	27.5	28.1	23.6	24.1	24.1	24.7	25.3
<b>Variations with the observer position at spacings:</b>										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.1 / - 0.4				

CIE Pub.117 Corrected 2039 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.5)

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-01-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.267  
 Humidity:65.0%  
 Test Distance:8.000m [K=0.7063]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		

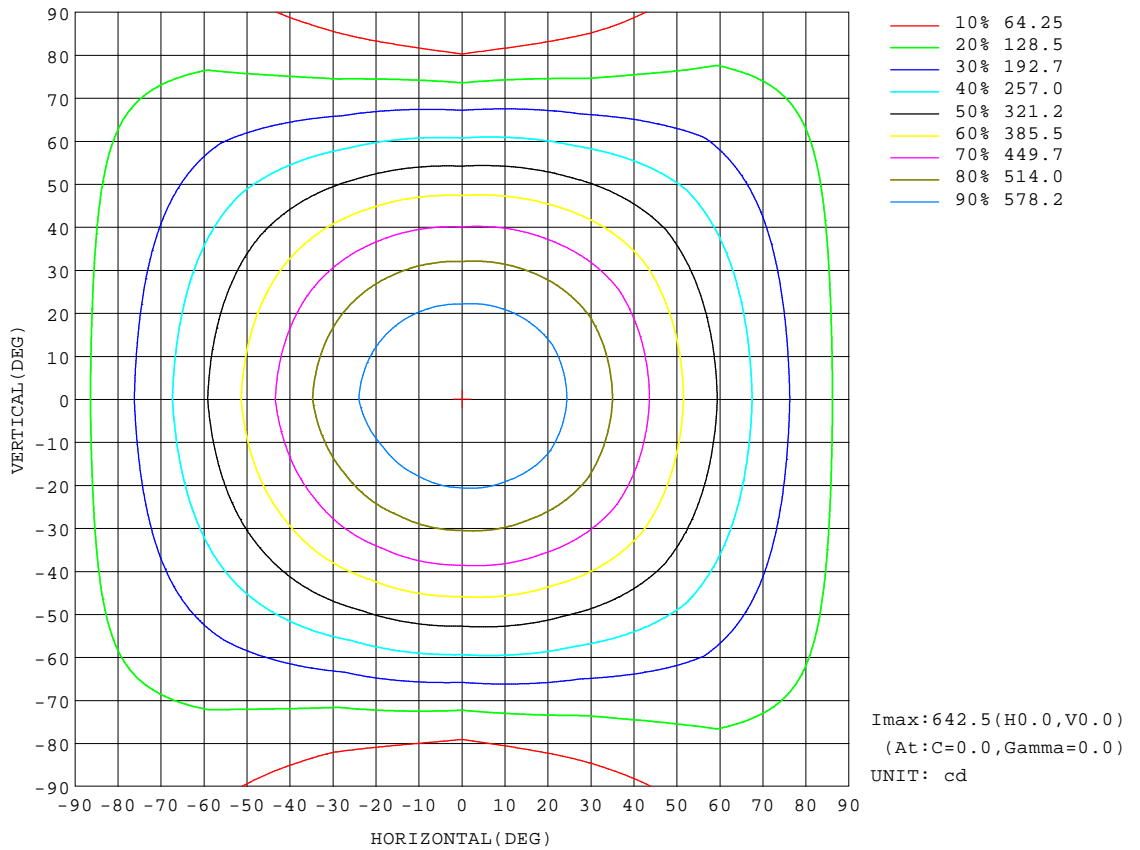
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
<b>ROOM INDEX</b>	<b>UTILIZATION FACTORS(PERCENT) <math>k(RI) \times RCR = 5</math></b>									
<b>k = 0.60</b>	54	43	36	54	42	35	52	42	35	29
<b>0.80</b>	64	52	44	63	51	44	61	50	44	36
<b>1.00</b>	72	60	53	71	60	52	68	61	52	44
<b>1.25</b>	79	68	60	77	67	60	74	65	59	51
<b>1.50</b>	84	73	66	82	72	65	78	70	64	55
<b>2.00</b>	91	81	74	89	80	73	85	77	71	62
<b>2.50</b>	95	86	80	93	85	78	88	81	76	66
<b>3.00</b>	99	91	84	96	89	83	91	85	80	70
<b>4.00</b>	103	96	91	100	94	89	95	90	86	75
<b>5.00</b>	105	100	95	102	97	93	97	93	89	78
<b>ROOM INDEX</b>	<b>UF(total)</b>									<b>Direct</b>
<b>According to DIN EN 13032-2 2004</b>			<b>Suspended</b>					<b>SHRNOM = 1.25</b>		

**C Range: 0 - 360DEG**  
**C Interval: 30.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:DAMIN**  
**Test Date:2018-01-13**

**$\gamma$  Range: 0 - 180DEG**  
 **$\gamma$  Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.267**  
**Humidity:65.0%**  
**Test Distance:8.000m [K=0.7063]**  
**Remarks:**

**ISOCANDELA DIAGRAM**

Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		



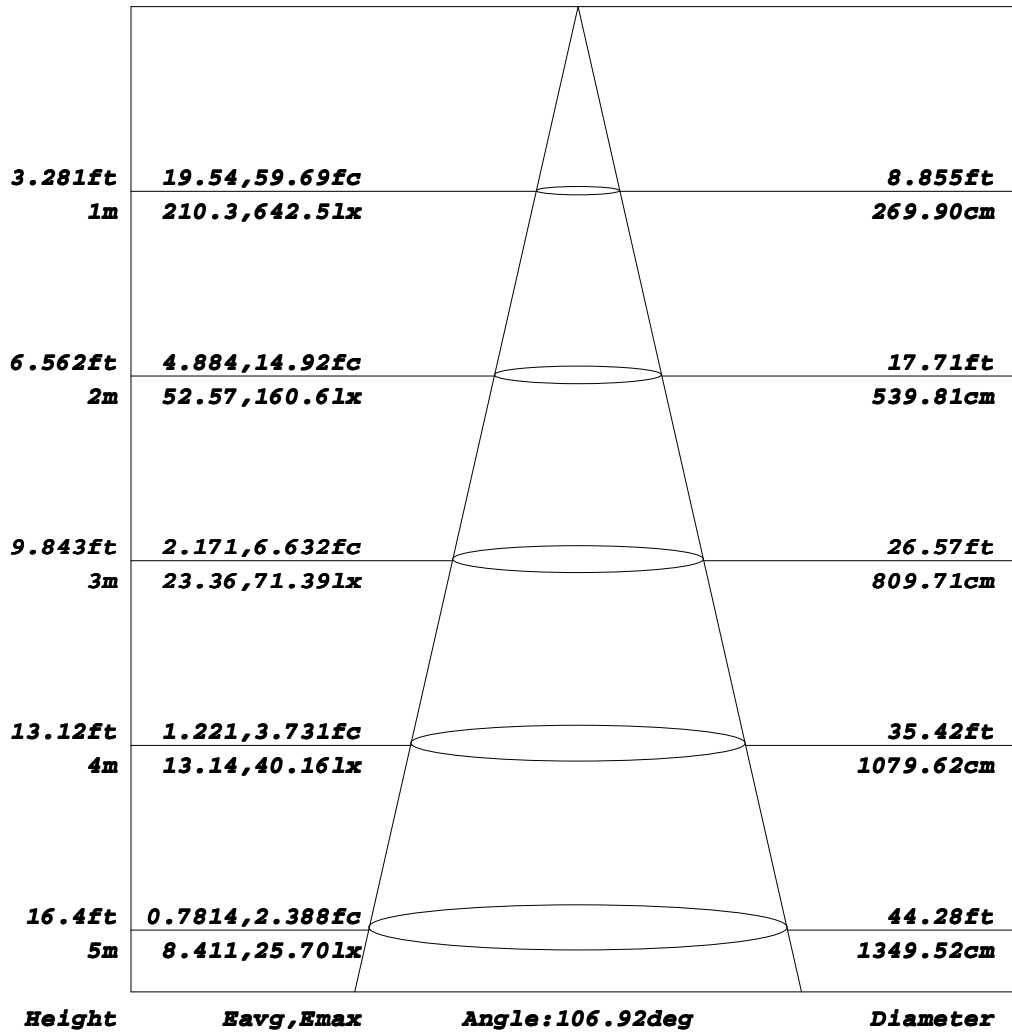
**C Range: 0 - 360DEG**  
**C Interval: 30.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: DAMIN**  
**Test Date: 2018-01-13**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.267**  
**Humidity: 65.0%**  
**Test Distance: 8.000m [K=0.7063]**  
**Remarks:**

**AAI Figure**

Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		

Flux out:1251 lm



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

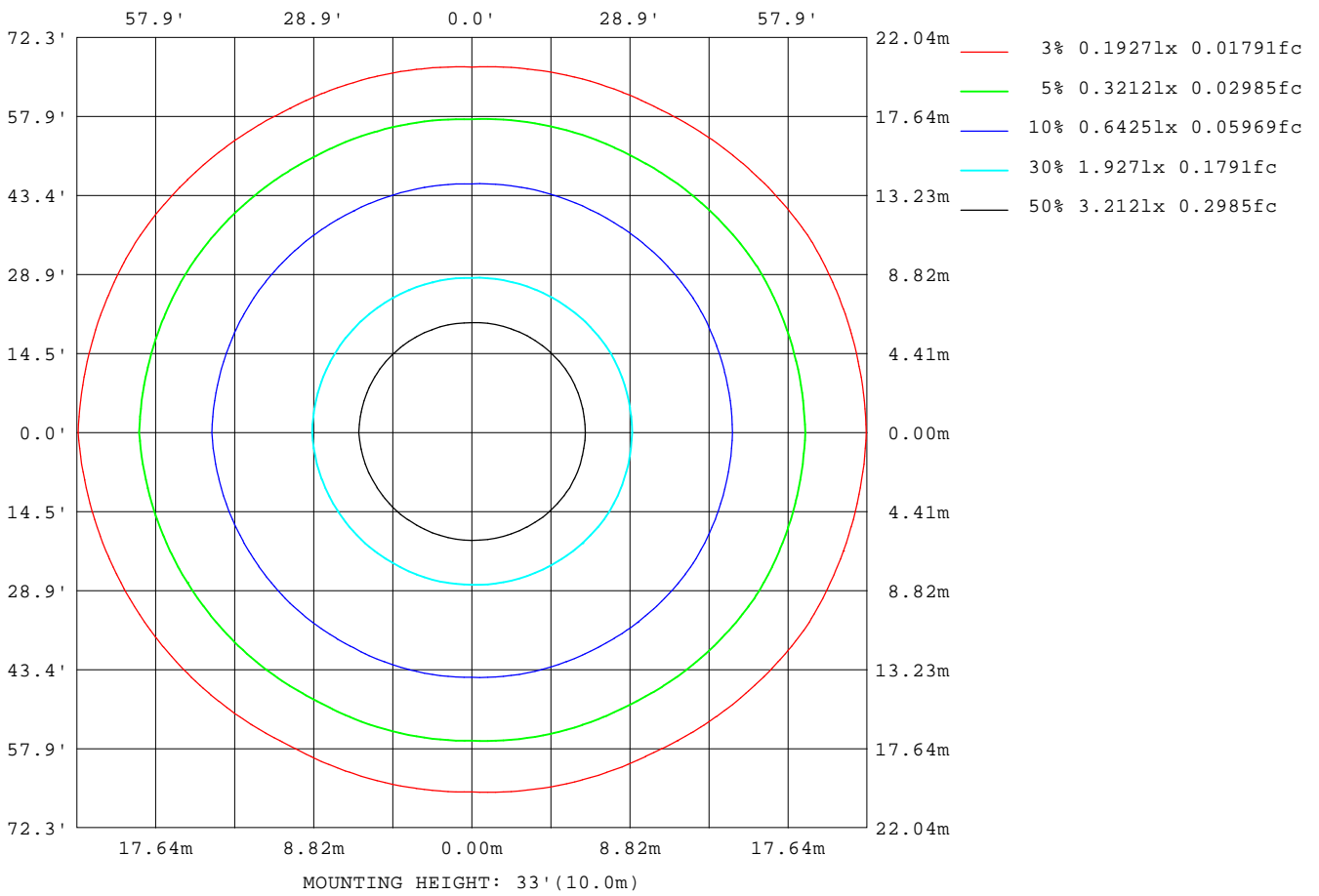
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2018-01-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.267  
 Humidity: 65.0%  
 Test Distance: 8.000m [K=0.7063]  
 Remarks:



**ISOLUX DIAGRAM**

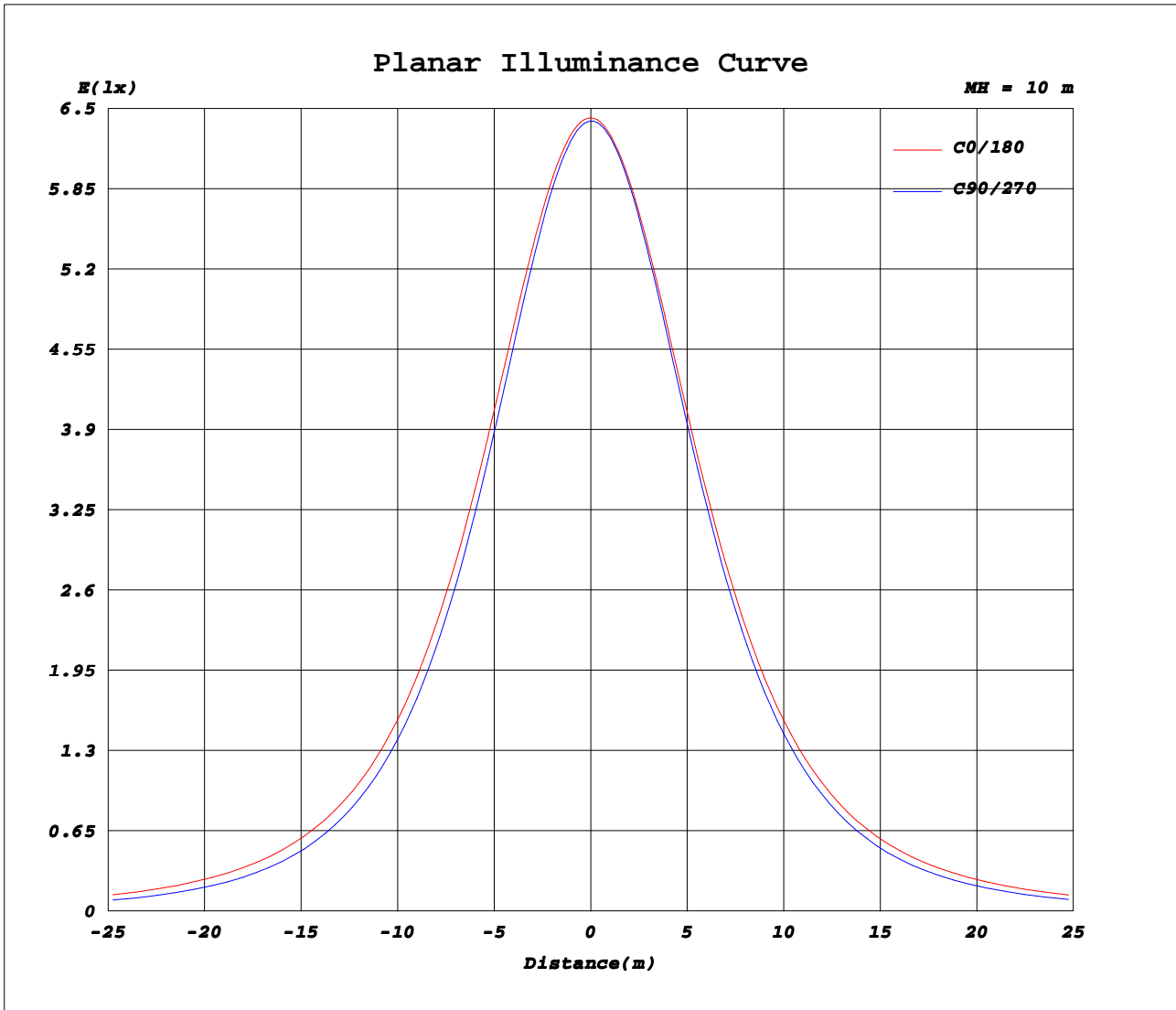
Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		



**C Range: 0 - 360DEG**  
**C Interval: 30.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: DAMIN**  
**Test Date: 2018-01-13**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.267**  
**Humidity: 65.0%**  
**Test Distance: 8.000m [K=0.7063]**  
**Remarks:**

**Planar Illuminance Curve**



**C Range: 0 - 360DEG**  
**C Interval: 30.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: DAMIN**  
**Test Date: 2018-01-13**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.267**  
**Humidity: 65.0%**  
**Test Distance: 8.000m [K=0.7063]**  
**Remarks:**

**LUMINOUS DISTRIBUTION INTENSITY DATA**

Test:U:220.1V I:0.1180A P:20.70W PF:0.7920 Lamp Flux:2039.27x1 lm		
NAME: 0.6M-22W-3000K	TYPE:LED	
MFR.:		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	642	641	640	640	639	639	642	641	640	640	639	639							
5	640	639	637	635	634	634	639	638	638	637	638	638							
10	632	630	626	624	622	623	631	629	628	628	630	630							
15	618	615	609	606	604	607	617	614	613	611	615	617							
20	599	596	587	582	581	585	597	594	591	589	594	599							
25	575	571	559	552	552	558	573	569	564	562	568	575							
30	547	541	526	518	518	527	545	539	533	528	536	546							
35	514	508	489	480	480	492	512	505	497	491	502	513							
40	478	470	449	438	439	454	476	468	458	450	462	477							
45	439	430	406	394	396	413	438	428	415	407	420	437							
50	398	388	361	348	350	370	397	386	371	361	375	395							
55	357	345	315	300	303	326	355	342	323	313	328	352							
60	316	302	268	251	255	284	314	300	276	264	280	308							
65	276	260	221	201	208	242	275	259	228	215	232	267							
70	238	221	175	151	162	203	237	220	182	164	185	226							
75	201	184	134	102	120	167	201	182	140	114	141	188							
80	167	150	96.3	56.5	83.0	134	167	148	102	66.5	102	153							
85	136	118	66.0	19.5	54.0	104	137	117	70.1	26.6	68.6	120							
90	107	90.0	41.9	4.02	32.1	77.9	108	89.2	44.5	5.93	43.0	92.3							
95	81.7	66.2	24.5	4.80	17.1	56.0	83.3	66.3	26.8	5.57	24.8	68.0							
100	59.8	46.3	13.6	5.23	9.38	37.9	61.6	46.5	15.4	6.07	13.7	47.6							
105	41.4	29.9	7.98	5.76	6.45	24.3	43.3	31.0	9.42	6.62	8.54	31.6							
110	27.2	18.3	6.77	6.46	6.57	15.2	29.0	19.9	7.58	7.23	7.55	20.2							
115	17.0	11.5	7.42	7.15	7.25	9.97	18.8	13.0	8.09	7.87	8.14	12.9							
120	10.9	8.70	8.08	7.86	7.94	8.28	12.6	9.72	8.70	8.54	8.73	9.54							
125	9.00	9.00	8.76	8.57	8.65	8.93	10.1	9.74	9.31	9.19	9.34	9.68							
130	9.66	9.65	9.46	9.29	9.38	9.61	10.5	10.3	9.94	9.85	9.96	10.3							
135	10.3	10.3	10.1	10.0	10.1	10.3	11.0	10.9	10.5	10.5	10.6	10.8							
140	10.9	11.0	10.8	10.7	10.7	10.9	11.5	11.4	11.2	11.1	11.2	11.4							
145	11.5	11.6	11.4	11.4	11.4	11.5	12.0	11.9	11.7	11.7	11.7	11.9							
150	12.1	12.2	12.1	12.0	12.0	12.1	12.5	12.4	12.3	12.3	12.3	12.4							
155	12.7	12.8	12.7	12.6	12.6	12.7	13.0	12.9	12.8	12.8	12.8	12.9							
160	13.3	13.3	13.2	13.3	13.2	13.2	13.5	13.4	13.3	13.3	13.3	13.4							
165	13.8	13.9	13.8	13.8	13.7	13.7	14.0	13.8	13.8	13.8	13.8	13.9							
170	14.4	14.3	14.2	14.2	14.2	14.2	14.4	14.2	14.2	14.2	14.2	14.3							
175	14.7	14.6	14.5	14.5	14.5	14.5	14.6	14.4	14.4	14.4	14.4	14.5							
180	14.8	14.7	14.6	14.5	14.5	14.6	14.8	14.6	14.6	14.5	14.5	14.6							

**C Range: 0 - 360DEG**  
**C Interval: 30.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:DAMIN**  
**Test Date:2018-01-13**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.267**  
**Humidity:65.0%**  
**Test Distance:8.000m [K=0.7063]**  
**Remarks:**