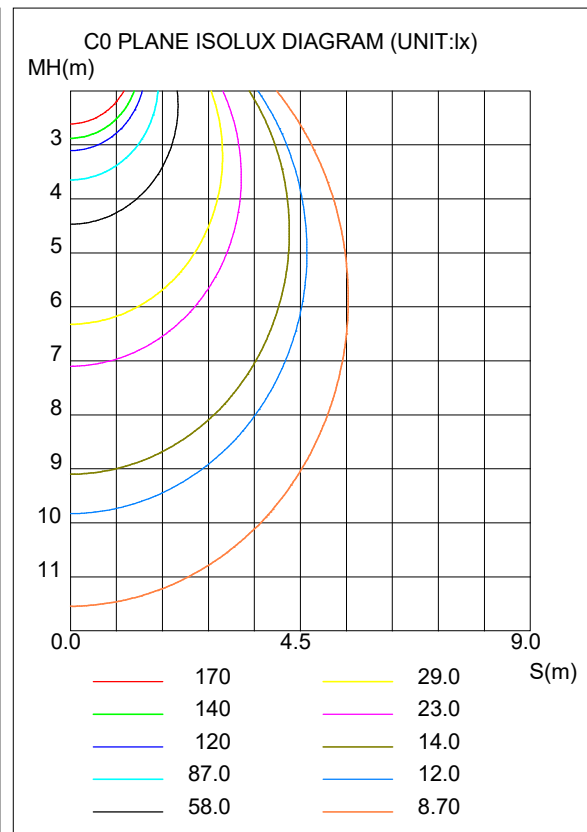
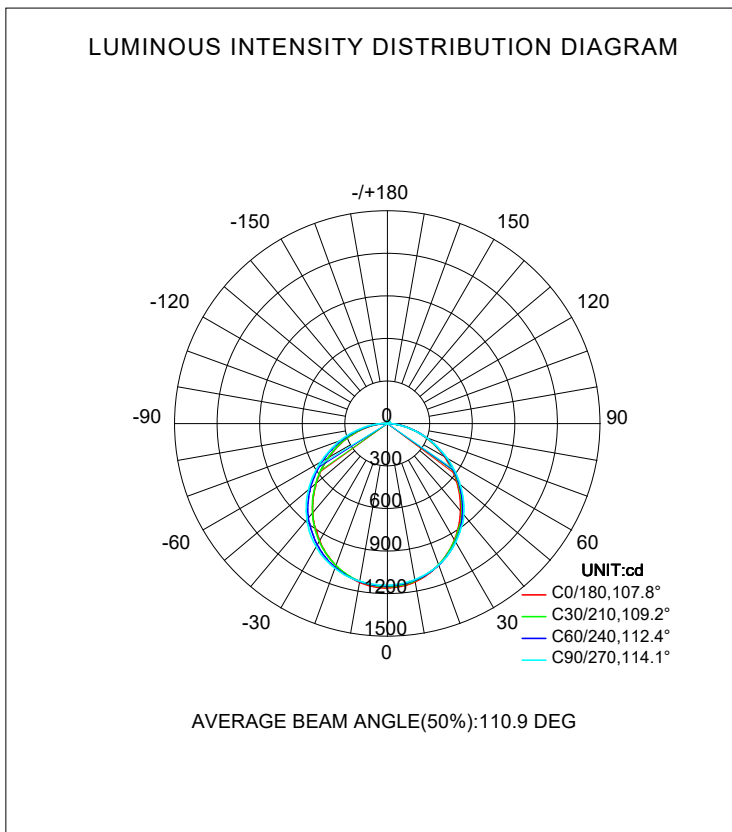


Luminaire Photometric Test Report

Test: U:220.8V I:0.1830A P:39.80W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 81.5 lm/W
MODEL	PAN/595/40W	I _{max} (cd)	1160	S/MH(C0/180)		1.22
NOMINAL POWER(W)	40	LOR(%)	100.0	S/MH(C90/270)		1.26
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	3170.35	η UP, DN(C0-180)		1.2,46.9
NOMINAL FLUX(lm)	3170.35	CIE CLASS	DIRECT	η UP, DN(C180-360)		1.3,50.6
LAMPS INSIDE	1	η up(%)	2.5	CIBSE SHR NOM		1.25
TEST VOLTAGE(V)	220.7	η down(%)	97.5	CIBSE SHR MAX		1.35



Zonal Flux Diagram

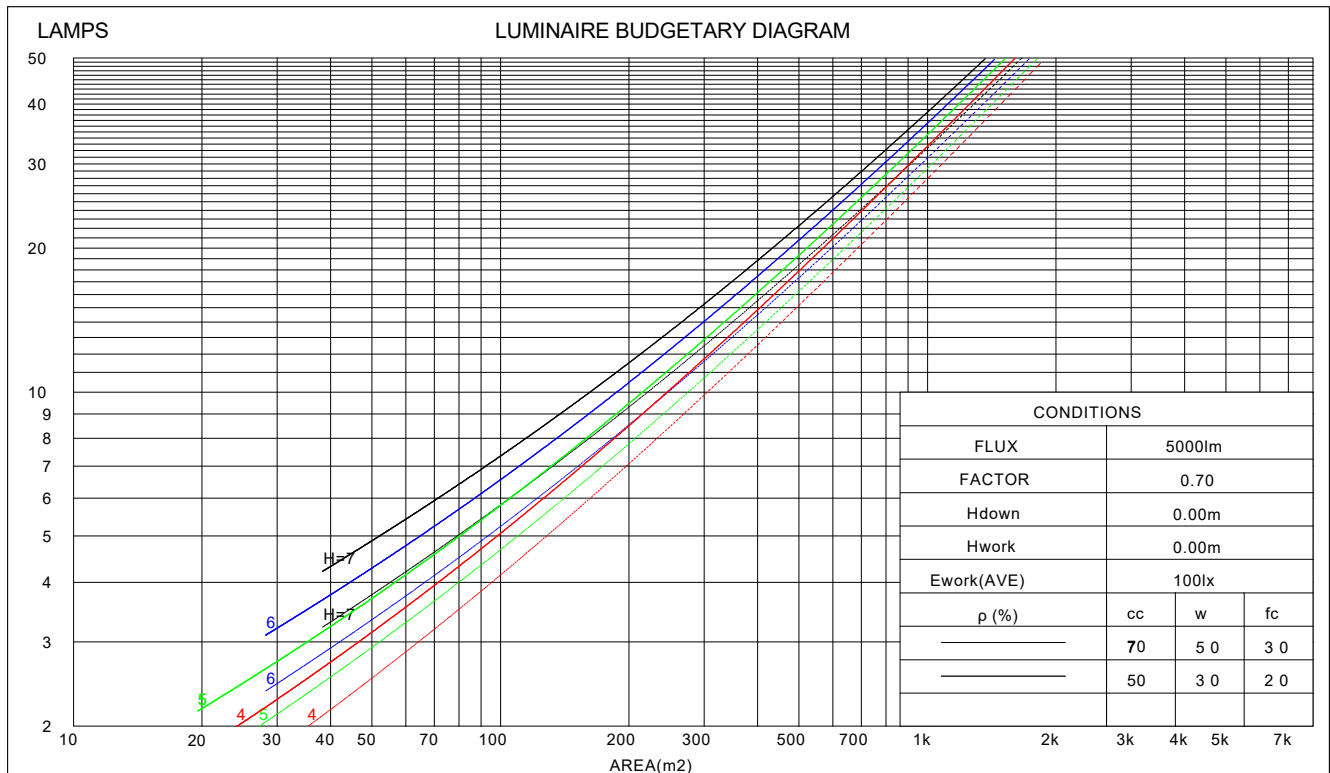
ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum.lamp
10	1133	1124	1118	1107	1137	1130	1129	1125	0- 10	108.3	108.3	3.24,3.24
20	1061	1060	1061	1038	1066	1072	1086	1073	10- 20	310.0	418.3	12.5,12.5
30	946.8	956.9	965.5	931.0	955.5	974.7	1005	982.1	20- 30	469.1	887.4	26.6,26.6
40	803.4	821.6	838.6	793.0	820.6	846.4	883.9	859.2	30- 40	563.8	1451	43.5,43.5
50	638.7	655.4	671.3	627.2	656.9	685.8	726.3	701.9	40- 50	580.9	2032	60.9,60.9
60	462.9	474.3	484.7	448.1	479.4	506.2	544.8	525.0	50- 60	519.2	2551	76.5,76.5
70	288.0	292.5	294.6	270.0	300.9	324.8	358.0	344.5	60- 70	394.7	2946	88.3,88.3
80	124.4	124.0	120.8	106.6	135.7	151.8	175.0	170.2	70- 80	233.8	3180	95.3,95.3
90	6.560	6.745	7.007	6.913	9.315	12.41	20.15	24.31	80- 90	73.06	3253	97.5,97.5
100	8.540	8.779	9.112	9.002	9.930	9.892	9.904	9.596	90-100	9.511	3262	97.8,97.8
110	10.61	10.84	11.23	11.09	11.84	11.72	11.66	11.34	100-110	10.89	3273	98.1,98.1
120	12.70	12.86	13.25	13.09	13.74	13.62	13.55	13.25	110-120	12.16	3285	98.5,98.5
130	14.53	14.57	14.86	14.77	15.36	15.20	15.14	14.89	120-130	12.64	3298	98.9,98.9
140	15.82	15.85	16.05	16.05	16.42	16.30	16.20	16.07	130-140	12.01	3310	99.2,99.2
150	17.05	17.11	17.26	17.22	17.47	17.31	17.16	17.13	140-150	10.43	3320	99.5,99.5
160	18.64	18.69	18.77	18.71	18.91	18.64	18.51	18.44	150-160	8.264	3329	99.8,99.8
170	20.13	20.10	20.00	20.04	20.25	20.01	19.89	19.82	160-170	5.480	3334	99.9,99.9
180	20.39	20.40	20.17	20.31	20.55	20.40	20.12	20.32	170-180	1.929	3336	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

CU and Luminaire Budgetary Estimate Diagram

Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
MFR.:		

ρ cc	80%			70%			50%			30%			10%			0
ρ w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ fc	20%			20%			20%			20%			20%			0
RCR	Coefficients of Utilization(CU)															
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	1.05	1.05	1.05	.00	.00	.00	.98
1.0	1.03	.99	.95	1.01	.97	.93	.96	.93	.90	.92	.89	.87	.88	.85	.84	.81
2.0	.90	.83	.77	.88	.81	.76	.84	.78	.74	.80	.76	.72	.77	.73	.70	.68
3.0	.79	.71	.64	.77	.69	.63	.74	.67	.62	.71	.65	.60	.68	.63	.59	.57
4.0	.70	.61	.54	.68	.60	.54	.65	.58	.53	.63	.57	.52	.60	.55	.51	.48
5.0	.62	.53	.47	.61	.53	.46	.59	.51	.46	.56	.50	.45	.54	.49	.44	.42
6.0	.56	.47	.41	.55	.47	.40	.53	.45	.40	.51	.44	.39	.49	.43	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.48	.41	.35	.46	.40	.35	.45	.39	.34	.32
8.0	.46	.38	.32	.46	.37	.32	.44	.37	.31	.43	.36	.31	.41	.35	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.33	.28	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.37	.31	.26	.36	.30	.25	.35	.29	.25	.23



Goniophotometers System Test Report



WEC and CCEB

Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm														
NAME: PAN/595/40W							TYPE: LED							
DIM.: 595*595mm							SUR.: 545*545mm							
MFR.:														

ρ cc	80%			70%			50%			30%			10%			0
ρ w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ fc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.312	.178	.056	.304	.174	.055	.290	.166	.053	.276	.159	.051	.264	.153	.049	
2.0	.292	.160	.049	.285	.157	.048	.272	.151	.047	.260	.146	.046	.249	.141	.044	
3.0	.270	.144	.043	.264	.141	.042	.252	.137	.042	.241	.132	.041	.231	.128	.040	
4.0	.249	.129	.038	.243	.127	.038	.233	.123	.037	.223	.120	.036	.214	.116	.035	
5.0	.230	.117	.034	.225	.115	.034	.216	.112	.033	.207	.109	.032	.199	.106	.032	
6.0	.213	.107	.031	.209	.105	.030	.200	.103	.030	.193	.100	.029	.185	.098	.029	
7.0	.198	.098	.028	.194	.097	.028	.187	.094	.027	.180	.092	.027	.173	.090	.026	
8.0	.185	.090	.025	.182	.089	.025	.175	.087	.025	.169	.085	.025	.163	.084	.024	
9.0	.173	.084	.023	.170	.083	.023	.164	.081	.023	.158	.079	.023	.153	.078	.022	
10.0	.163	.078	.022	.160	.077	.022	.155	.076	.021	.149	.074	.021	.145	.073	.021	

ρ cc	80%			70%			50%			30%			10%			0
ρ w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ 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	.200	.175	.153	.171	.150	.132	.117	.104	.091	.067	.060	.053	.022	.019	.017	
2.0	.192	.151	.117	.164	.130	.101	.112	.090	.071	.065	.052	.041	.021	.017	.014	
3.0	.184	.134	.094	.158	.115	.081	.108	.080	.057	.062	.047	.034	.020	.015	.011	
4.0	.176	.120	.078	.151	.104	.068	.104	.073	.048	.060	.042	.028	.019	.014	.009	
5.0	.169	.110	.067	.145	.095	.058	.100	.067	.041	.058	.039	.024	.019	.013	.008	
6.0	.162	.102	.059	.139	.088	.051	.096	.062	.036	.056	.036	.022	.018	.012	.007	
7.0	.155	.095	.053	.133	.082	.046	.092	.058	.033	.053	.034	.019	.017	.011	.006	
8.0	.148	.089	.048	.128	.077	.042	.088	.054	.030	.051	.032	.018	.017	.011	.006	
9.0	.142	.084	.045	.123	.073	.039	.085	.051	.028	.049	.030	.017	.016	.010	.006	
10.0	.137	.080	.042	.118	.069	.037	.082	.049	.026	.048	.029	.016	.015	.009	.005	

Uncorrected UGR Table

Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
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	16.6	18.1	16.9	18.4	18.6	16.8	18.3	17.1	18.5	18.8
3H	18.1	19.5	18.4	19.8	20.0	18.3	19.6	18.6	19.9	20.2
4H	18.7	20.0	19.0	20.3	20.6	18.8	20.1	19.2	20.4	20.7
6H	19.1	20.3	19.5	20.7	21.0	19.2	20.5	19.6	20.8	21.1
8H	19.3	20.4	19.6	20.8	21.1	19.3	20.5	19.7	20.9	21.2
12H	19.3	20.5	19.7	20.8	21.2	19.4	20.5	19.8	20.9	21.2
4H 2H	17.2	18.5	17.6	18.8	19.2	17.4	18.7	17.7	19.0	19.3
3H	18.9	20.0	19.3	20.4	20.7	19.0	20.2	19.4	20.5	20.9
4H	19.6	20.6	20.0	21.0	21.4	19.7	20.8	20.1	21.1	21.5
6H	20.1	21.1	20.6	21.5	21.9	20.2	21.2	20.7	21.6	22.0
8H	20.3	21.2	20.8	21.6	22.1	20.4	21.3	20.8	21.7	22.1
12H	20.5	21.3	20.9	21.7	22.1	20.5	21.3	20.9	21.7	22.2
8H 4H	19.8	20.7	20.3	21.1	21.6	20.0	20.8	20.4	21.2	21.7
6H	20.6	21.3	21.0	21.7	22.2	20.6	21.3	21.1	21.8	22.3
8H	20.8	21.5	21.3	21.9	22.4	20.9	21.5	21.4	22.0	22.5
12H	21.0	21.6	21.6	22.1	22.6	21.0	21.6	21.5	22.1	22.6
12H 4H	19.9	20.6	20.3	21.1	21.5	20.0	20.8	20.4	21.2	21.6
6H	20.6	21.2	21.1	21.7	22.2	20.7	21.3	21.2	21.8	22.3
8H	20.9	21.5	21.4	22.0	22.5	21.0	21.5	21.5	22.0	22.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				

CIE Pub.117 Corrected 3336 lm Total Lamp Luminous F

lux.(8log(F/F0) = 4.2)

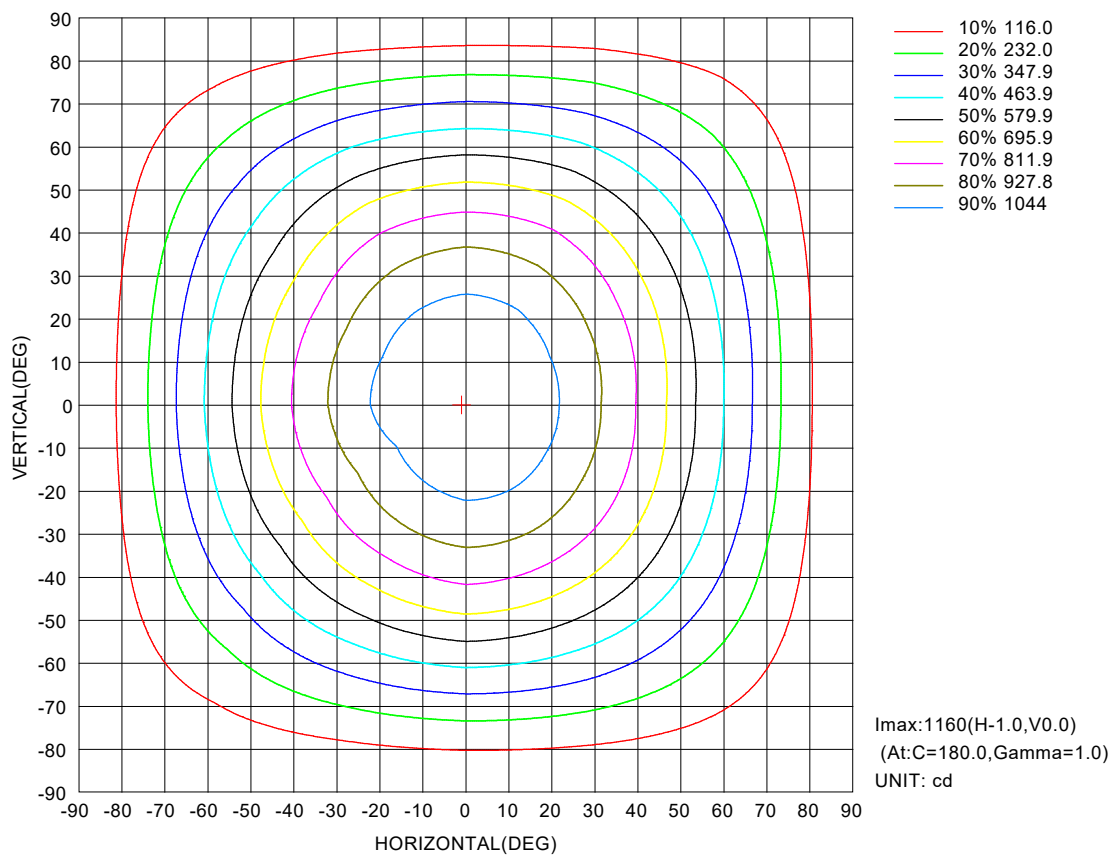
Utilisation Factors Table

Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
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
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.6	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	48	64	54	47	40
1.00	75	64	57	74	63	56	71	64	56	48
1.25	82	72	64	81	71	64	78	69	63	55
1.50	87	77	70	85	76	70	82	74	68	60
2.00	94	85	79	92	84	78	88	81	76	68
2.50	98	90	84	96	89	83	92	86	81	72
3.00	101	94	89	99	93	87	95	89	85	76
4.00	105	100	95	103	98	93	98	94	90	81
5.00	108	103	99	105	101	97	100	97	94	84
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

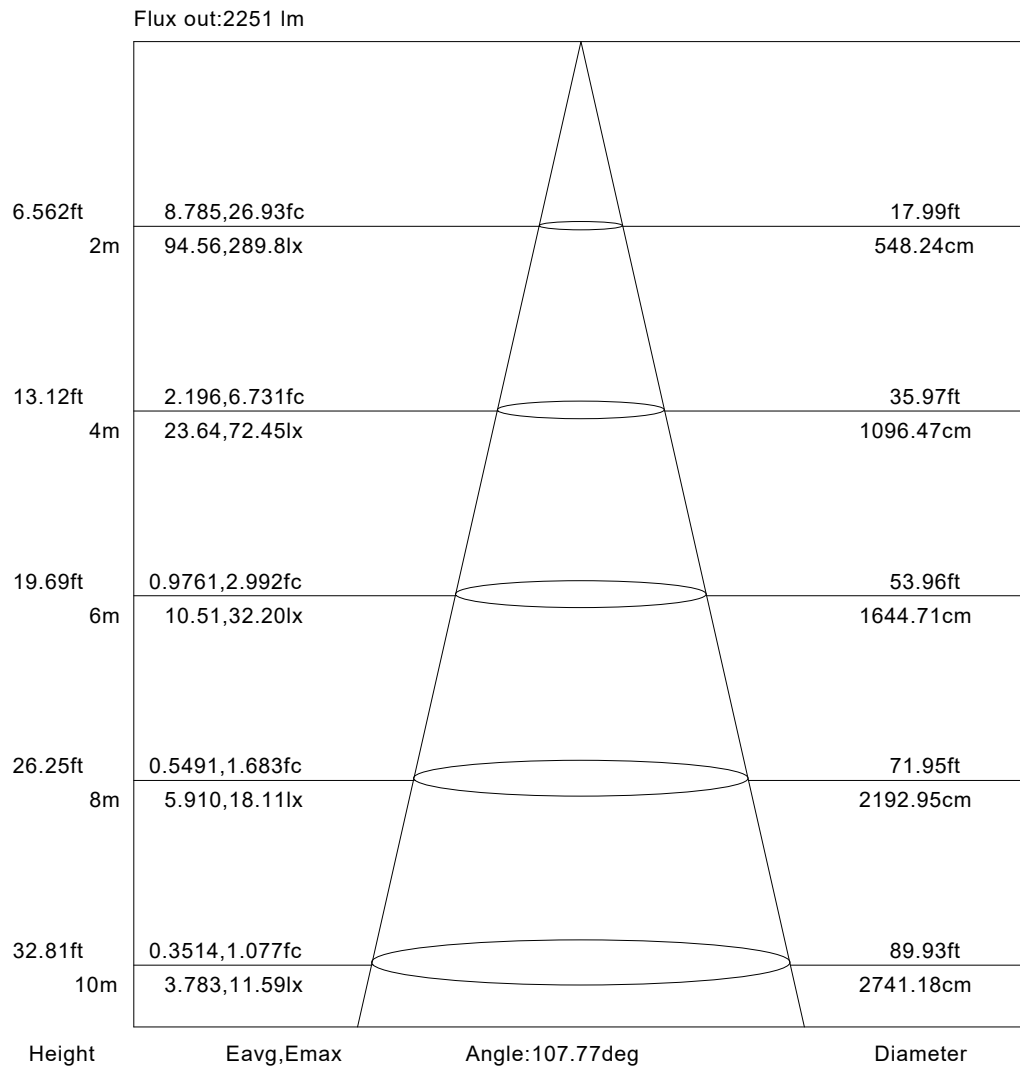
Isocandela Diagram

Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
MFR.:		



AAI Figure

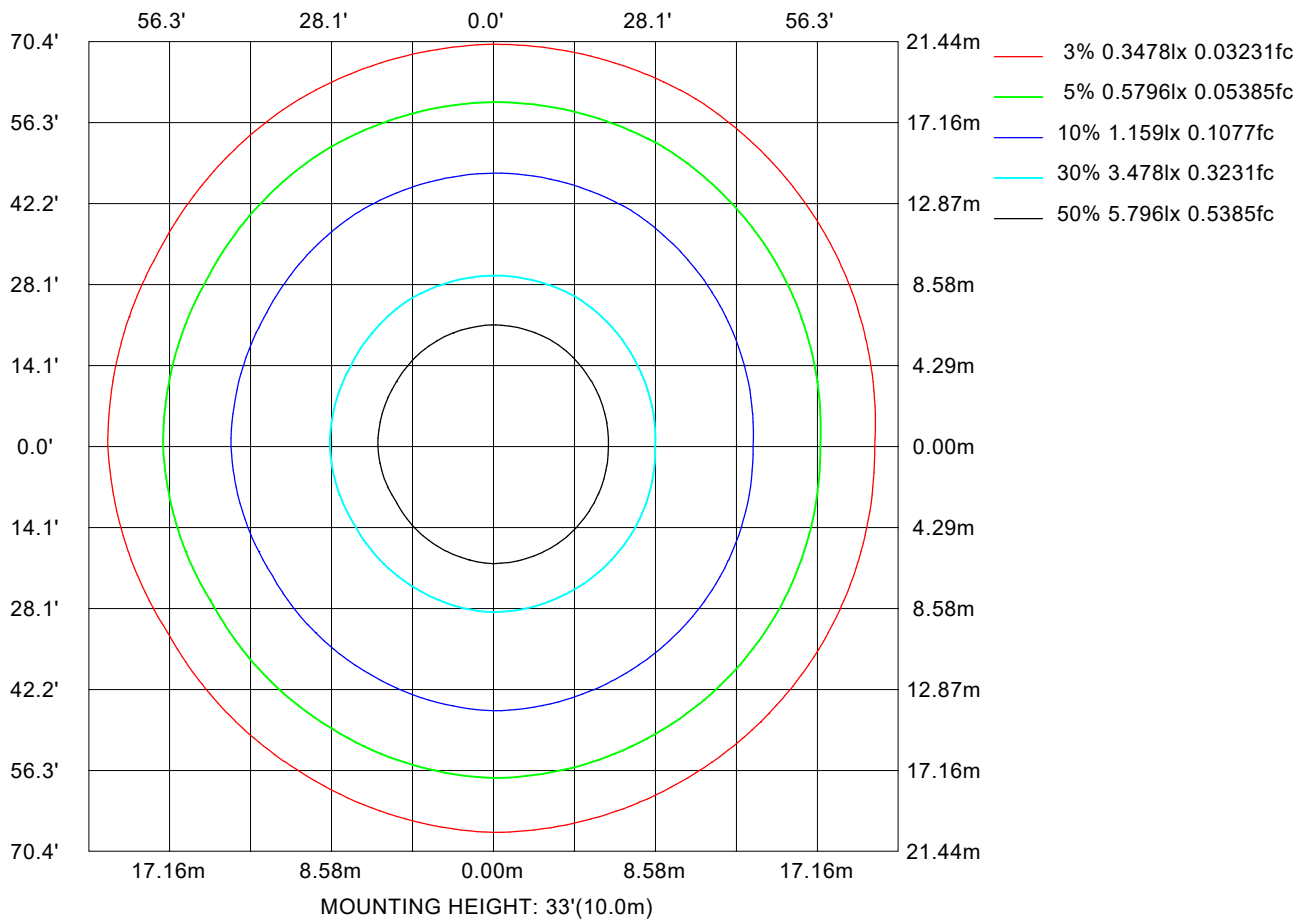
Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
MFR.:		



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

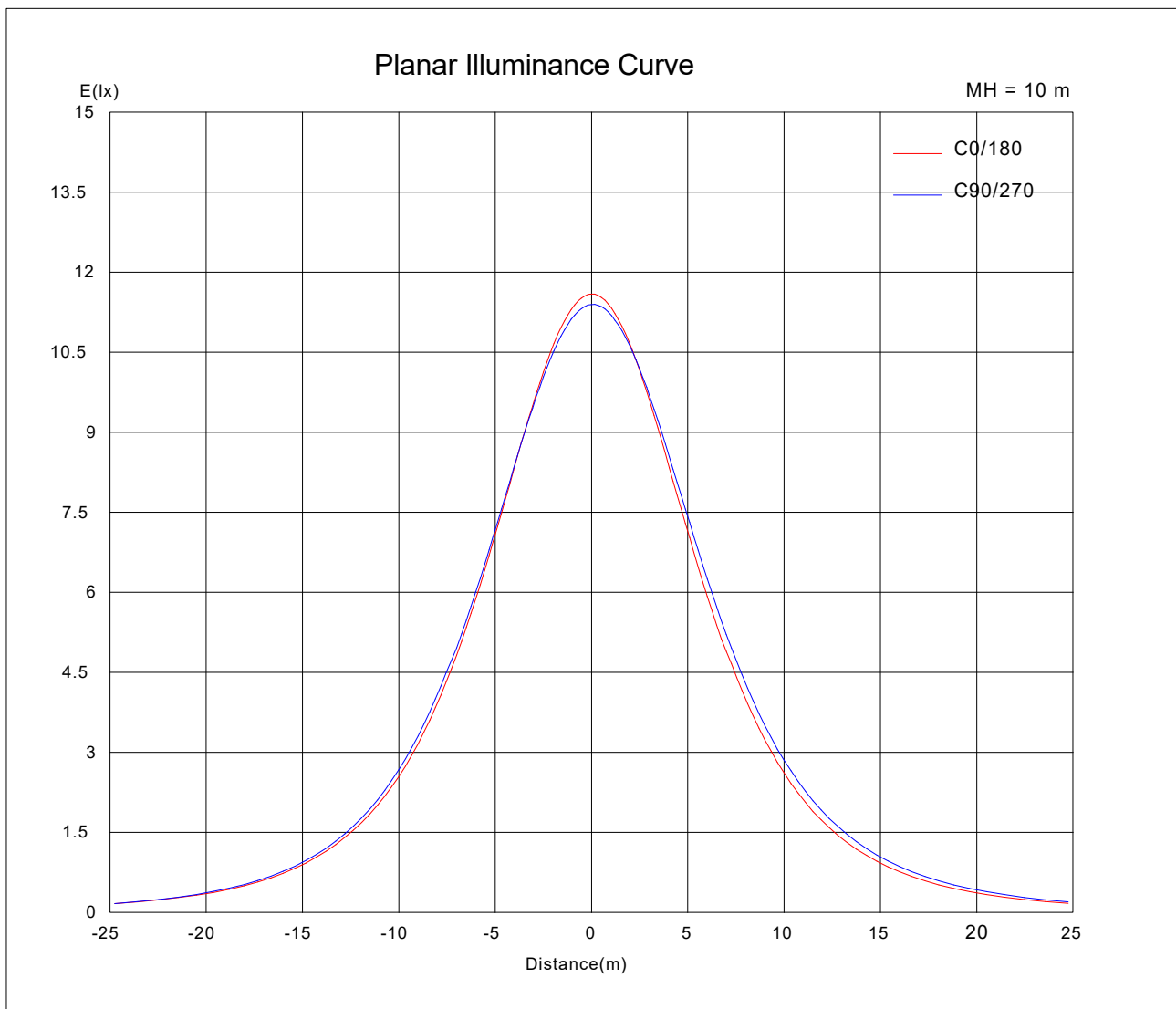
Isolux Diagram

Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
MFR.:		



Planar Illuminance Curve

Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
MFR.:		



Luminous Distribution Intensity Data

Test: U:220.8V I:0.1830A P:38.90W PF:0.9600 Lamp Flux: 3170.35x1 lm		
NAME: PAN/595/40W	TYPE: LED	
DIM.: 595*595mm	SUR.: 545*545mm	
MFR.:		

Table-1

UNIT: cd

C(DEG) \ v(DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	1159	1150	1144	1140	1138	1136	1159	1150	1144	1140	1138	1136						
5	1152	1143	1138	1133	1127	1126	1154	1145	1141	1139	1136	1134						
10	1133	1126	1122	1118	1110	1105	1137	1129	1130	1129	1128	1122						
15	1102	1098	1097	1094	1082	1074	1107	1103	1110	1112	1109	1098						
20	1061	1058	1061	1061	1045	1032	1066	1065	1078	1086	1082	1064						
25	1008	1009	1017	1018	998	981	1016	1018	1038	1051	1044	1021						
30	947	951	963	966	941	921	955	960	990	1005	997	967						
35	878	889	899	904	876	859	891	896	930	949	940	905						
40	803	817	826	839	802	784	821	823	870	884	882	836						
45	723	736	745	759	722	703	742	744	793	809	807	760						
50	639	651	660	671	637	618	657	661	711	726	726	678						
55	552	562	570	579	547	531	569	573	620	637	637	593						
60	463	472	477	485	455	441	479	485	527	545	545	505						
65	377	380	385	388	367	352	389	396	433	450	450	417						
70	288	290	295	295	276	264	301	310	340	358	357	332						
75	203	204	206	204	189	182	216	223	249	264	266	244						
80	124	125	123	121	108	105	136	142	162	175	178	162						
85	55.1	52.7	48.8	43.7	36.3	36.8	63.5	68.5	83.1	92.5	98.6	87.0						
90	6.56	6.64	6.85	7.01	7.03	6.80	9.31	9.85	15.0	20.2	26.6	22.1						
95	7.50	7.63	7.86	8.05	8.07	7.82	9.03	8.98	9.00	8.92	8.74	8.65						
100	8.54	8.66	8.90	9.11	9.13	8.87	9.93	9.87	9.91	9.90	9.68	9.51						
105	9.58	9.68	9.93	10.2	10.2	9.91	10.9	10.8	10.8	10.8	10.5	10.4						
110	10.6	10.7	11.0	11.2	11.2	11.0	11.8	11.7	11.7	11.7	11.4	11.3						
115	11.7	11.8	12.0	12.3	12.2	12.0	12.8	12.6	12.7	12.6	12.3	12.2						
120	12.7	12.8	13.0	13.2	13.2	13.0	13.7	13.6	13.6	13.6	13.3	13.2						
125	13.7	13.7	13.9	14.1	14.1	13.9	14.6	14.5	14.5	14.4	14.2	14.1						
130	14.5	14.5	14.6	14.9	14.8	14.7	15.4	15.2	15.2	15.1	14.9	14.9						
135	15.2	15.2	15.3	15.5	15.5	15.4	15.9	15.8	15.8	15.7	15.5	15.5						
140	15.8	15.8	15.9	16.1	16.1	16.0	16.4	16.3	16.3	16.2	16.1	16.1						
145	16.4	16.5	16.5	16.6	16.7	16.6	16.8	16.8	16.8	16.6	16.6	16.6						
150	17.1	17.1	17.1	17.3	17.3	17.2	17.5	17.3	17.4	17.2	17.1	17.2						
155	17.8	17.9	17.8	18.0	18.0	17.9	18.1	17.9	18.0	17.8	17.6	17.8						
160	18.6	18.7	18.7	18.8	18.7	18.7	18.9	18.6	18.7	18.5	18.3	18.5						
165	19.6	19.5	19.5	19.6	19.4	19.5	19.7	19.4	19.4	19.3	19.1	19.2						
170	20.1	20.1	20.1	20.0	20.0	20.1	20.3	20.1	19.9	19.9	19.9	19.8						
175	20.3	20.3	20.3	20.1	20.2	20.3	20.5	20.4	20.3	20.1	20.3	20.1						
180	20.4	20.5	20.3	20.2	20.3	20.3	20.6	20.4	20.4	20.1	20.3	20.3						