

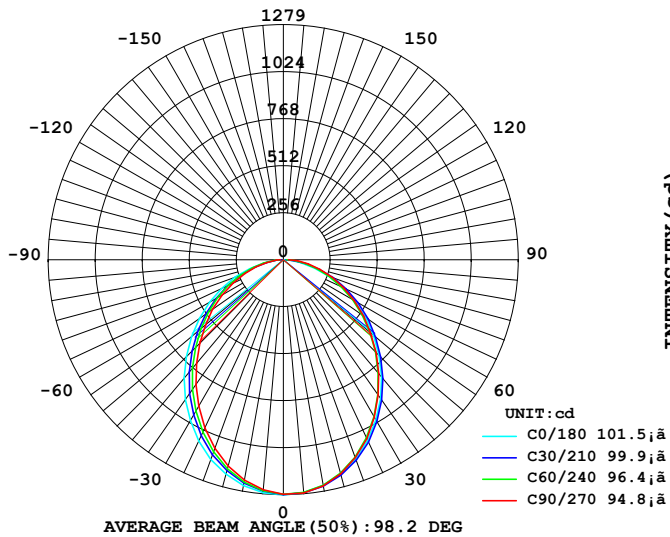
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

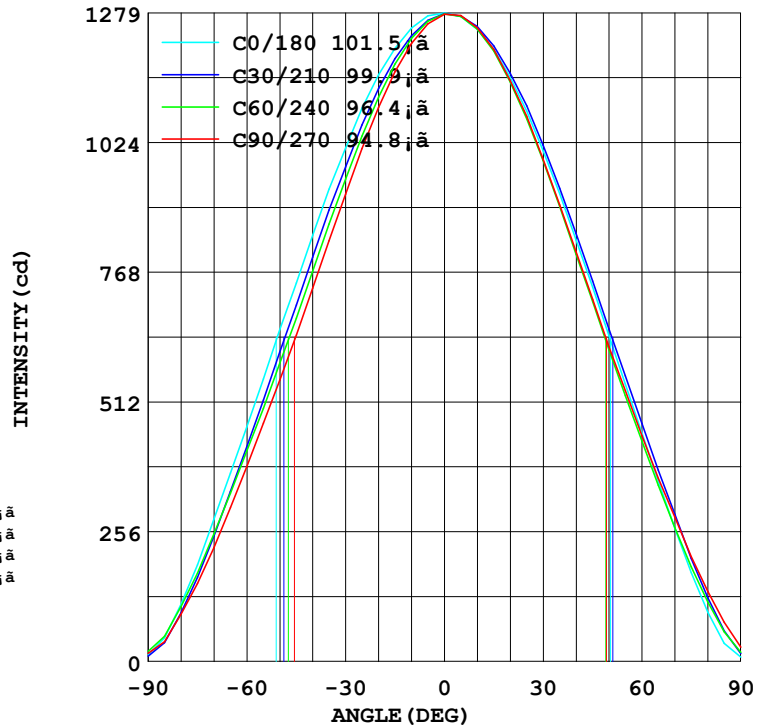
MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:

DATA OF LAMP		Imax (cd)	1280	S/MH (C0/180)	1.19
MODEL	VIRAJ 45	EFFICIENCY (%)	100.0	S/MH (C90/270)	1.09
NOMINAL POWER (W)	28	TOTAL FLUX (lm)	3125.7	Voltage (V)	219.6
RATED VOLTAGE (V)	220	EFFICIENCY (lm/W)	108.9	Current (A)	0.131
NOMINAL FLUX (lm)	3125.8	η up (%)	0.0	Power (W)	28.70
LAMPS QUANTITY	1	η down (%)	100.0	Power Factor (PF)	0.987
TEST VOLTAGE (V)	219.6	Effective Flux (lm)	3052.3	EEI	0.128

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System: HOPOO HPG1800
 Temperature: 25.3 DEG
 Operators:
 Test Date: 03-08-2025

Test Set: 5.0 deg/s C-Gamma (TYPE C)
 Humidity: 65.0%
 Test Distance: 8.500 m
 Remarks: 3000K

Color Temperature Data List

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:

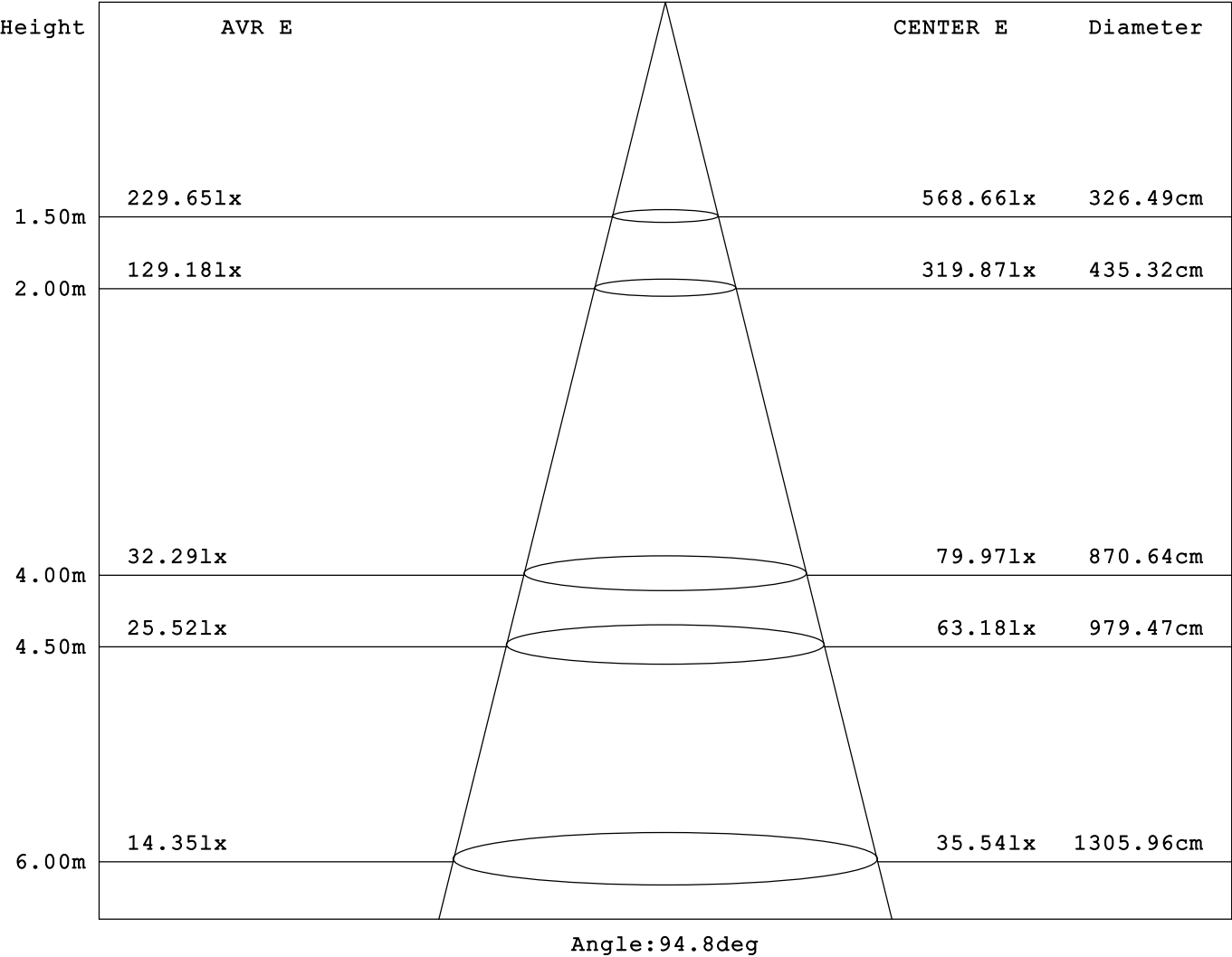
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

ZONAL FLUX DIAGRAM

Report number:

MANUFACTURER:											
Address:											
NAME: VIRAJ 45						TYPE: .5W 3K CRI 90			WEIGHT:		
SPECIFICATION: FULHAM 600 MA						DIMENSION: 1200*46*70			SERIAL No.:		

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Zone	total
10.0	1249	1232	1219	1231	1247	1250	1250	1252	0- 10	120.2	120.2
20.0	1157	1122	1093	1118	1152	1152	1146	1155	10- 20	336.8	457.1
30.0	1013	963.5	921.7	956.3	1008	1003	990.9	1006	20- 30	490.0	947.1
40.0	840.3	783.6	736.4	775.0	831.7	823.7	808.1	825.6	30- 40	559.6	1507
50.0	654.1	598.8	554.3	589.7	642.0	635.1	620.1	637.3	40- 50	547.6	2054
60.0	462.4	418.9	383.9	411.3	450.1	451.8	445.2	454.7	50- 60	469.9	2524
70.0	279.8	248.5	223.7	242.5	262.4	276.7	284.1	280.5	60- 70	344.4	2869
80.0	111.7	101.5	92.19	97.28	96.67	121.1	138.2	126.0	70- 80	194.4	3063
90.0	12.78	14.99	15.89	15.10	8.453	16.68	28.17	18.96	80- 90	62.42	3126
100.0									90-100		
110.0									100-110		
120.0									110-120		
130.0									120-130		
140.0									130-140		
150.0									140-150		
160.0									150-160		
170.0									160-170		
180.0									170-180		
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

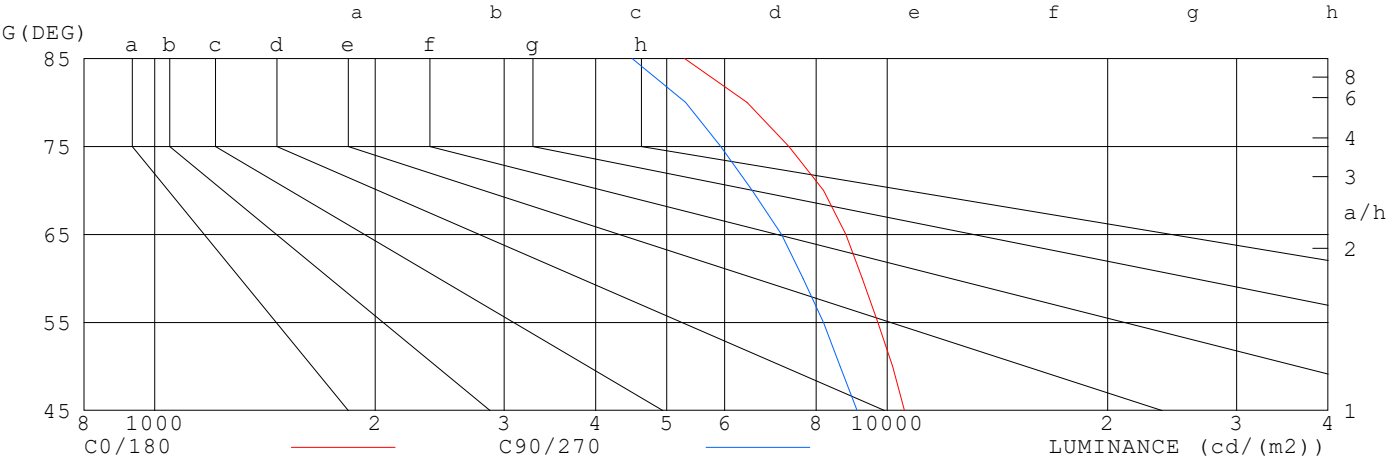
LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
		2000	1000	500	<=300				
1.15	A								
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300



LUMINANCE cd/m2

G (DEG)	C0/180	C90/270
85	5289	4485
80	6437	5309
75	7347	5926
70	8184	6542
65	8789	7179
60	9249	7679
55	9716	8190
50	10177	8625
45	10557	9097

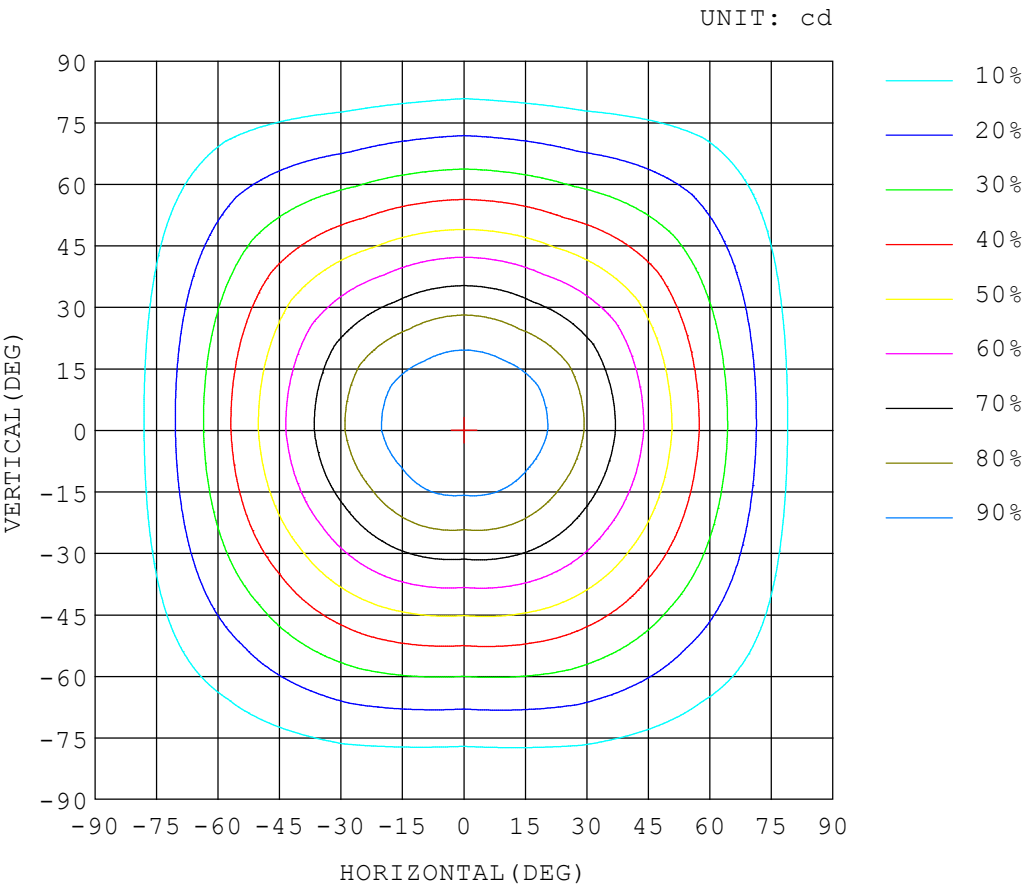
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:



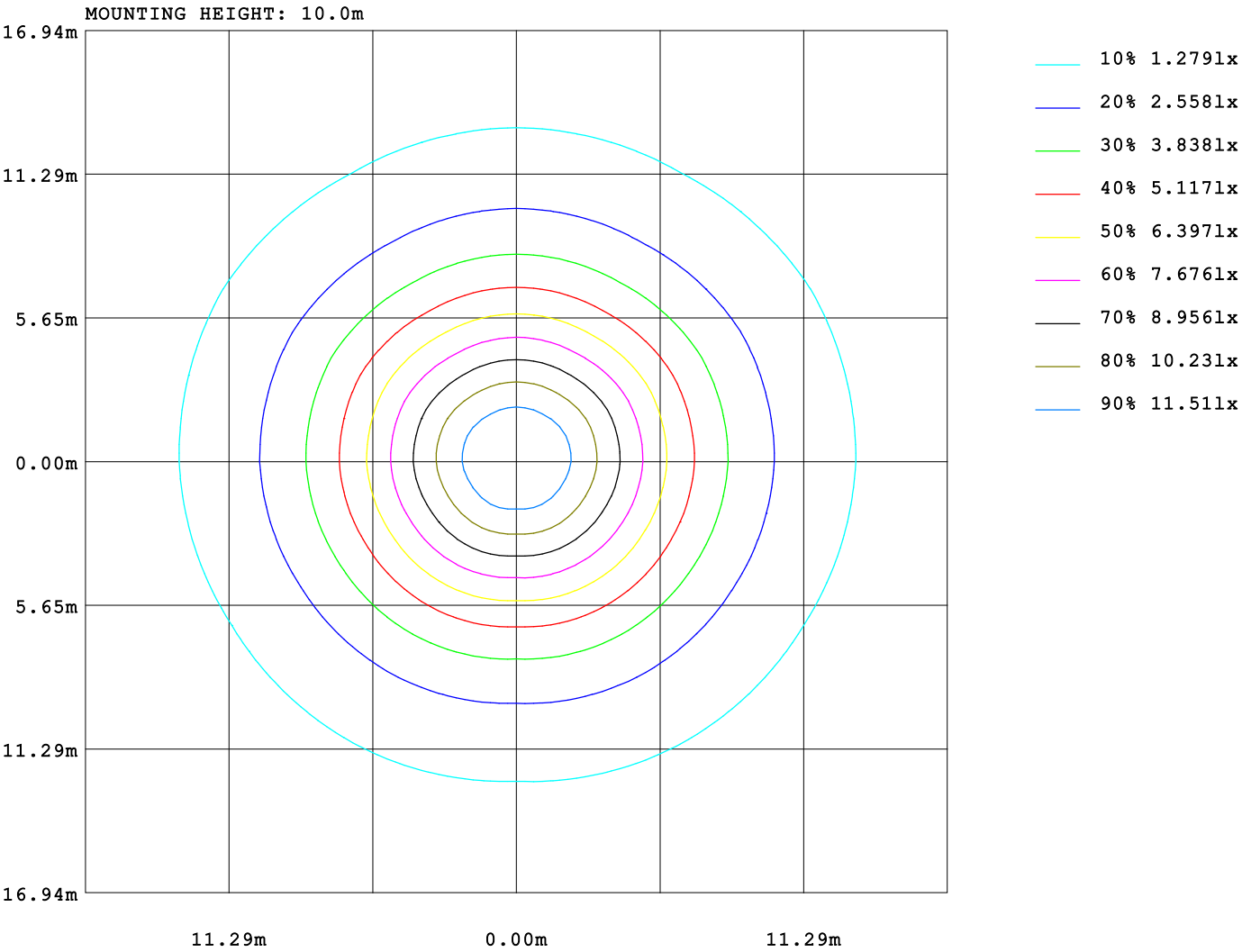
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

AREA LUMINOUS FLUX

Report number:

MANUFACTURER:																			
Address:																			
NAME: VIRAJ 45										TYPE: .5W 3K CRI 90					WEIGHT:				
SPECIFICATION: FULHAM 600 MA										DIMENSION: 1200*46*70					SERIAL No.:				

VERTICAL (DEG)	AREA FLUX DIAGRAM																		UNIT:lm		Φ t	Φ a
	0.04	0.17	0.42	0.73	1.03	1.33	1.66	2.04	2.33	2.35	2.08	1.72	1.40	1.11	0.80	0.48	0.21	0.05				
90																						
80																						
70																						
60																						
50																						
40																						
30																						
-30																						
-40																						
-50																						
-60																						
-70																						
-80																						
-90																						
	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)					20	30	40	50	60	70	80	90	
Φ t	1.81	15.5	48.2	98.6	161	228	291	341	368	368	342	293	231	164	101	50.5	17.0	2.22	3126			
Φ a	0.00	9.95	43.8	94.2	157	224	287	336	363	364	337	289	226	159	96.7	46.2	11.7	0.00		3052		

Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

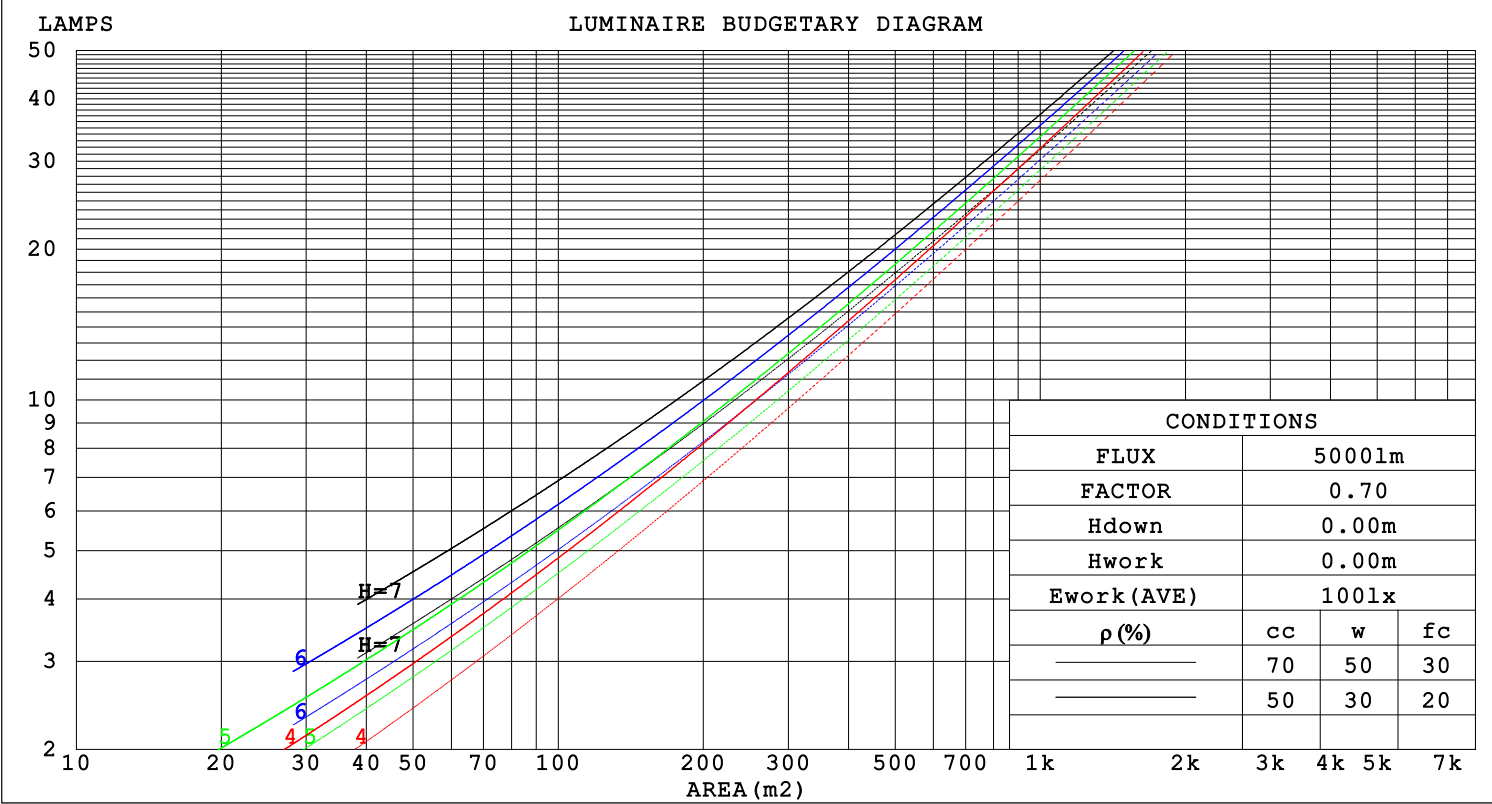
Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: VIRAJ 45								TYPE: .5W 3K CRI 90				WEIGHT:			
SPECIFICATION: FULHAM 600 MA								DIMENSION: 1200*46*70				SERIAL No.:			

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ffc	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	1.04	1.00	.96	1.02	.98	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.85	.79	.90	.83	.78	.86	.81	.76	.83	.78	.75	.80	.76	.73	.71
3.0	.81	.73	.66	.79	.72	.66	.76	.70	.65	.73	.68	.63	.71	.66	.62	.60
4.0	.72	.63	.57	.70	.62	.56	.68	.61	.55	.66	.60	.55	.64	.58	.54	.52
5.0	.64	.56	.49	.63	.55	.49	.61	.54	.48	.59	.53	.48	.57	.52	.47	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.43	.54	.47	.42	.52	.46	.42	.40
7.0	.53	.44	.38	.52	.44	.38	.51	.43	.38	.49	.43	.38	.48	.42	.37	.35
8.0	.48	.40	.34	.48	.40	.34	.46	.39	.34	.45	.39	.34	.44	.38	.34	.32
9.0	.45	.36	.31	.44	.36	.31	.43	.36	.31	.42	.35	.31	.41	.35	.30	.29
10.0	.41	.33	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

WEC AND CCEC

Report number:

MANUFACTURER:														
Address:														
NAME: VIRAJ 45								TYPE: .5W 3K CRI 90				WEIGHT:		
SPECIFICATION: FULHAM 600 MA								DIMENSION: 1200*46*70				SERIAL No.:		

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	.301	.171	.054	.293	.167	.053	.280	.161	.051	.268	.155	.050	.257	.149	.048	
2.0	.282	.155	.047	.276	.152	.047	.265	.147	.046	.254	.142	.045	.244	.138	.043	
3.0	.262	.139	.042	.256	.137	.041	.246	.133	.040	.236	.130	.040	.228	.126	.039	
4.0	.242	.126	.037	.237	.124	.037	.228	.121	.036	.220	.118	.036	.212	.115	.035	
5.0	.224	.114	.033	.220	.113	.033	.212	.110	.032	.204	.108	.032	.197	.105	.032	
6.0	.208	.104	.030	.204	.103	.030	.197	.101	.029	.190	.099	.029	.184	.097	.029	
7.0	.194	.096	.027	.191	.095	.027	.184	.093	.027	.178	.091	.027	.173	.090	.026	
8.0	.181	.089	.025	.178	.088	.025	.173	.086	.025	.167	.085	.024	.162	.083	.024	
9.0	.170	.082	.023	.168	.082	.023	.163	.080	.023	.158	.079	.023	.153	.078	.022	
10.0	.160	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.145	.073	.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	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.146	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.155	.101	.059	.133	.087	.052	.091	.061	.036	.053	.036	.022	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.087	.055	.030	.051	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.065	.030	.079	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.127	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

Uncorrected UGR Table

Report number:

MANUFACTURER:											
Address:											
NAME: VIRAJ 45					TYPE: .5W 3K CRI 90			WEIGHT:			
SPECIFICATION: FULHAM 600 MA					DIMENSION: 1200*46*70			SERIAL No.:			
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	20.4	21.9	20.7	22.1	22.3	19.8	21.3	20.1	21.5	21.7
	3H	21.8	23.2	22.1	23.4	23.6	21.1	22.4	21.4	22.7	22.9
	4H	22.3	23.6	22.6	23.9	24.1	21.6	22.9	21.9	23.1	23.4
	6H	22.7	23.9	23.0	24.2	24.4	21.9	23.1	22.2	23.4	23.7
	8H	22.7	23.9	23.1	24.2	24.5	21.9	23.1	22.3	23.4	23.7
	12H	22.8	23.9	23.1	24.2	24.5	22.0	23.1	22.3	23.4	23.7
4H	2H	20.9	22.2	21.2	22.4	22.7	20.4	21.7	20.8	22.0	22.2
	3H	22.4	23.6	22.8	23.9	24.2	21.9	23.0	22.2	23.3	23.6
	4H	23.1	24.1	23.4	24.4	24.7	22.5	23.5	22.9	23.9	24.2
	6H	23.5	24.4	23.9	24.8	25.1	22.9	23.9	23.3	24.2	24.6
	8H	23.6	24.4	24.0	24.8	25.2	23.0	23.9	23.4	24.2	24.6
	12H	23.7	24.5	24.1	24.8	25.2	23.1	23.9	23.5	24.3	24.7
8H	4H	23.2	24.1	23.7	24.5	24.8	22.8	23.6	23.2	24.0	24.4
	6H	23.8	24.5	24.2	24.9	25.3	23.3	24.0	23.8	24.4	24.9
	8H	23.9	24.5	24.4	25.0	25.4	23.5	24.1	23.9	24.5	25.0
	12H	24.0	24.6	24.5	25.0	25.5	23.6	24.2	24.1	24.6	25.1
12H	4H	23.2	24.0	23.7	24.4	24.8	22.7	23.5	23.2	23.9	24.3
	6H	23.8	24.4	24.3	24.8	25.3	23.3	24.0	23.8	24.4	24.8
	8H	24.0	24.5	24.4	24.9	25.4	23.5	24.1	24.0	24.5	25.0
Variations with the observer position at spacings:											
S = 1.0H		+ 0.1 / - 0.1					+ 0.2 / - 0.2				
1.5H		+ 0.1 / - 0.2					+ 0.2 / - 0.3				
2.0H		+ 0.4 / - 0.4					+ 0.3 / - 0.5				

CIE Pub.117 Corrected 3126 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.0)

Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

UTILIZATION FACTORS TABLE

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	60	48	42	59	48	42	58	48	41	35
0.80	70	58	51	69	58	51	67	57	51	44
1.00	78	67	60	77	66	60	74	68	59	52
1.25	85	75	68	83	74	67	81	72	67	59
1.50	89	80	73	88	79	73	85	77	72	64
2.00	96	88	82	94	87	81	91	84	79	72
2.50	100	92	86	98	91	86	94	88	84	76
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	100	95	100	96	93	84
5.00	109	104	100	107	102	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

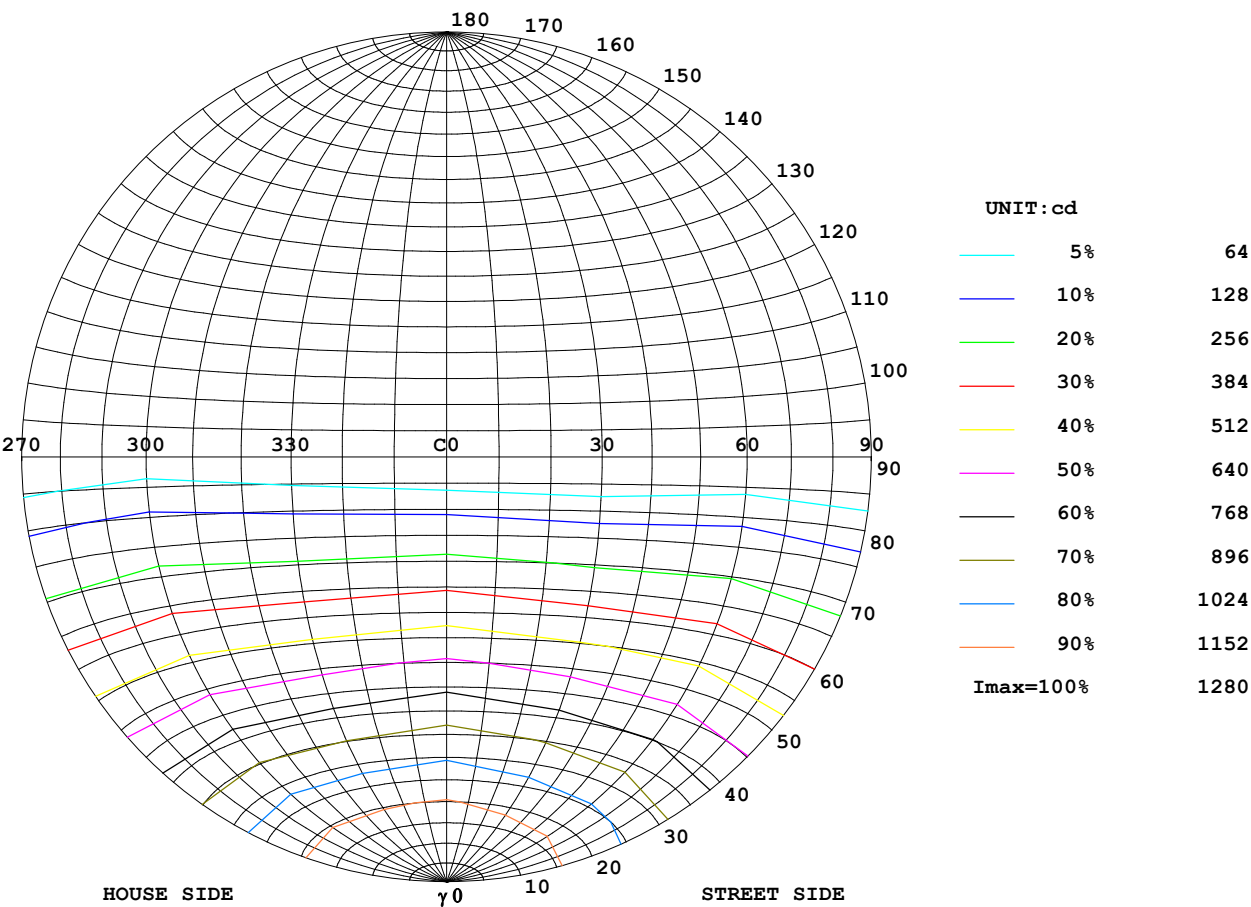
Test System: HOPOO HPG1800
 Temperature: 25.3 DEG
 Operators:
 Test Date: 03-08-2025

Test Set: 5.0 deg/s C-Gamma (TYPE C)
 Humidity: 65.0%
 Test Distance: 8.500 m
 Remarks: 3000K

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

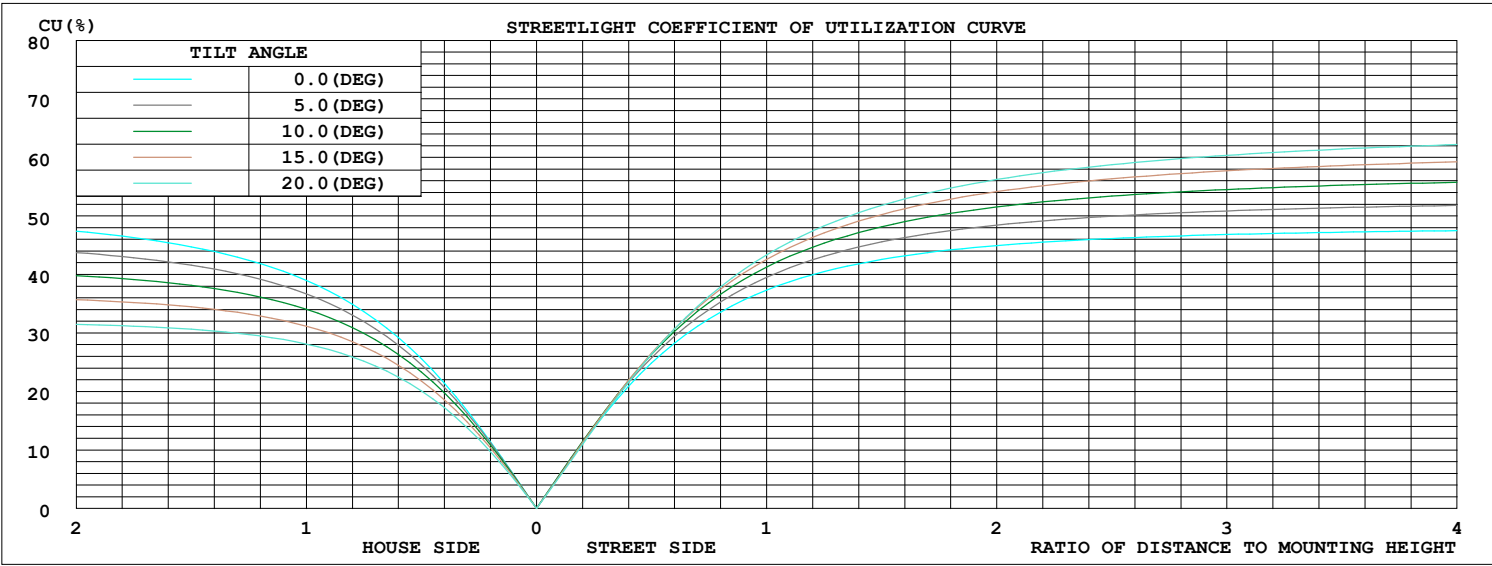
Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:

ILLUMINANCE AT MH=10 m,Enadir = 12.79 lx



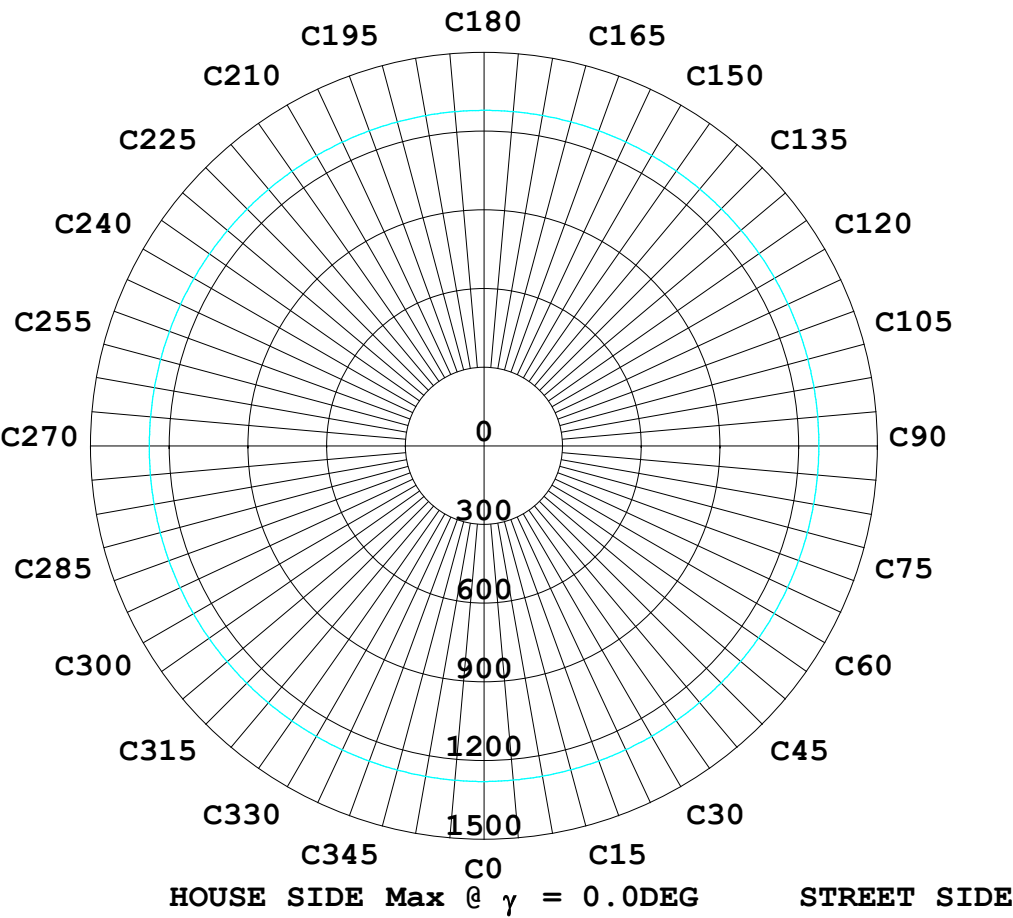
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:03-08-2025

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.500 m
Remarks: 3000K

LUMINOUS DISTRIBUTION INTENSITY DATA

Report number:

MANUFACTURER:		
Address:		
NAME: VIRAJ 45	TYPE: .5W 3K CRI 90	WEIGHT:
SPECIFICATION: FULHAM 600 MA	DIMENSION: 1200*46*70	SERIAL No.:

UNIT: cd

C (DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330
0.0	1279	1278	1277	1276	1280	1279	1279	1278	1277	1276	1280	1279
5.0	1273	1265	1263	1258	1264	1264	1272	1273	1272	1274	1274	1275
10.0	1249	1234	1229	1219	1229	1233	1247	1253	1247	1250	1249	1255
15.0	1209	1189	1178	1163	1177	1184	1208	1214	1204	1207	1206	1216
20.0	1157	1130	1113	1093	1113	1123	1152	1161	1144	1146	1146	1164
25.0	1091	1058	1036	1011	1034	1050	1086	1096	1070	1075	1072	1099
30.0	1013	976	951	922	946	966	1008	1019	988	991	989	1022
35.0	932	890	863	830	856	879	923	933	898	900	898	936
40.0	840	798	770	736	764	786	832	844	803	808	805	847
45.0	746	703	677	643	670	691	738	750	710	714	710	755
50.0	654	610	588	554	581	598	642	656	615	620	616	659
55.0	557	515	499	470	494	505	547	563	524	534	525	567
60.0	462	423	415	384	410	413	450	469	434	445	436	474
65.0	371	336	332	303	327	326	356	377	347	362	349	382
70.0	280	246	251	224	247	238	262	290	263	284	265	296
75.0	190	166	174	153	170	158	175	203	187	207	189	210
80.0	112	95.2	108	92.1	105	89.5	96.6	125	117	138	120	132
85.0	46.0	36.7	49.6	39.0	47.5	32.8	35.6	60.5	58.1	77.4	61.0	66.7
90.0	12.7	10.3	19.6	15.8	19.7	10.4	8.45	15.6	17.7	28.1	19.5	18.3

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