

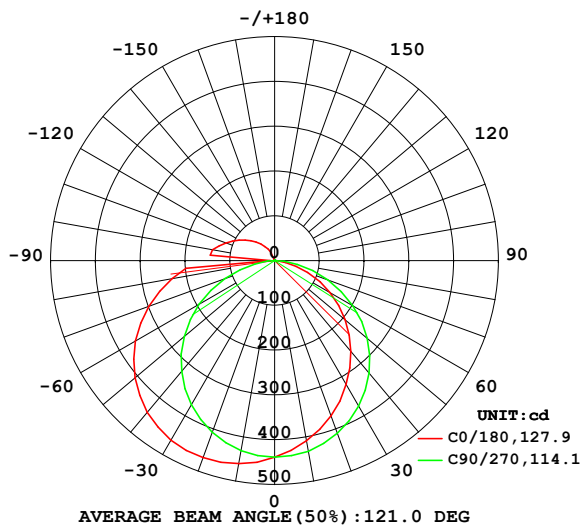
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

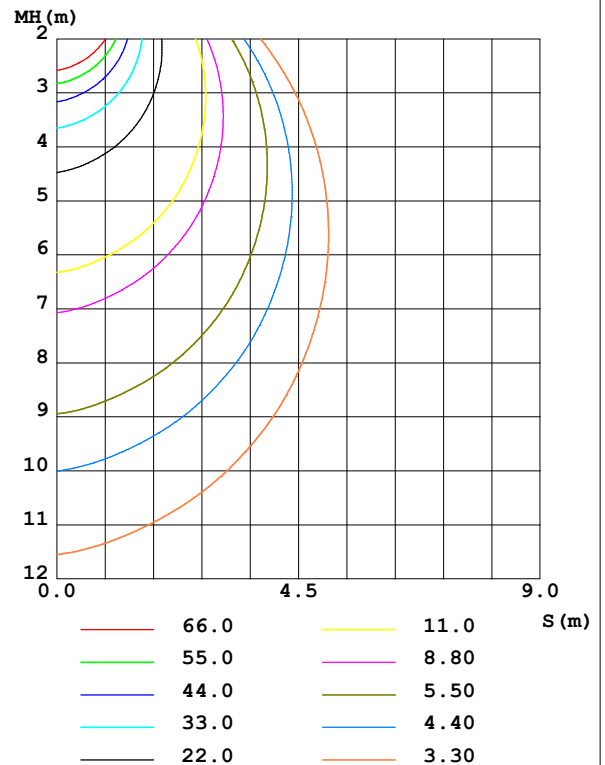
Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz		
Lamp Flux:1572.57x1 lm		
NAME: 8978WH-5CCT_IES		
MFR.: Royal Pacific Ltd.		

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 75.71 lm/W
MODEL		I _{max} (cd)	468.2	S/MH(C0/180)		1.56
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)		1.26
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1572.6	η UP,DN(C0-180)		2.5,41.3
NOMINAL FLUX(lm)	1572.57	CIE CLASS	DIRECT	η UP,DN(C180-360)		6.4,49.8
LAMPS INSIDE	1	η up(%)	8.8	CIBSE SHR NOM		1.50
TEST VOLTAGE(V)	120	η down(%)	91.2	CIBSE SHR MAX		1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3 °C
Operators: DAMIN
Test Date: 2025-08-01

γ Range: 0 - 180DEG
γ Interval: 5.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.464
Humidity: 65.0%
Test Distance: 26.000m [K=1.2600]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	408.5	413.9	432.4	452.0	460.3	450.5	431.0	414.4	0- 10	41.62	41.62	2.65,2.65
20	369.0	379.4	409.9	451.4	468.2	449.3	408.0	378.6	10- 20	120.1	161.7	10.3,10.3
30	320.0	331.4	375.6	436.7	463.0	433.0	371.7	332.6	20- 30	184.6	346.3	22,22
40	264.9	276.4	328.1	408.7	442.9	403.5	322.9	278.4	30- 40	227.4	573.6	36.5,36.5
50	205.6	213.2	269.7	367.2	407.3	361.0	263.8	217.9	40- 50	243.5	817.2	52,52
60	143.1	148.6	201.9	311.1	359.1	303.7	194.8	152.5	50- 60	231.1	1048	66.7,66.7
70	78.79	85.27	126.5	245.3	299.1	234.9	118.5	87.25	60- 70	191.7	1240	78.8,78.8
80	25.10	28.45	52.05	171.9	232.1	161.1	45.27	28.11	70- 80	132.8	1373	87.3,87.3
90	0.0119	0	0.0038	4.178	9.296	6.006	0.0360	0	80- 90	60.74	1433	91.2,91.2
100	0	0	0.3747	89.64	140.9	74.71	0	0	90-100	32.96	1466	93.3,93.3
110	0.0755	0	0	72.15	116.0	59.42	0	0	100-110	36.60	1503	95.6,95.6
120	0.0755	0	0	56.18	91.72	47.96	0	0	110-120	27.51	1531	97.3,97.3
130	0.0002	0	0	41.54	69.67	41.98	0	0	120-130	19.57	1550	98.6,98.6
140	0	0	0	28.33	48.89	36.37	0.3026	0	130-140	12.97	1563	99.4,99.4
150	0	0	0	0.9267	29.76	25.99	0.6825	0	140-150	7.108	1570	99.8,99.8
160	0	0	0	4.098	0.4831	0.5300	0.0006	0	150-160	2.151	1572	100,100
170	0	0	0	0.6072	0.6791	0.0012	0	0	160-170	0.2216	1573	100,100
180	0	0	0	0.6072	0.6791	0	0	0	170-180	0.0154	1573	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2025-08-01

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.2600]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz

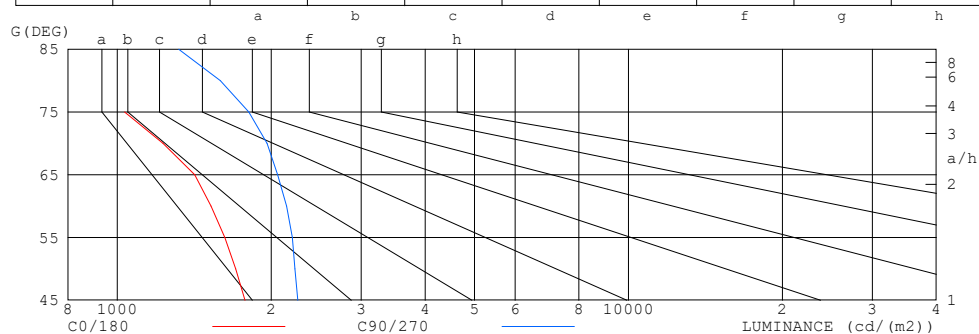
Lamp Flux:1572.57x1 lm

NAME: 8978WH-5CCT_IES

MFR.: Royal Pacific Ltd.

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
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	280	1318
80	770	1591
75	1033	1808
70	1228	1963
65	1416	2059
60	1526	2142
55	1622	2198
50	1705	2227
45	1777	2255

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2025-08-01

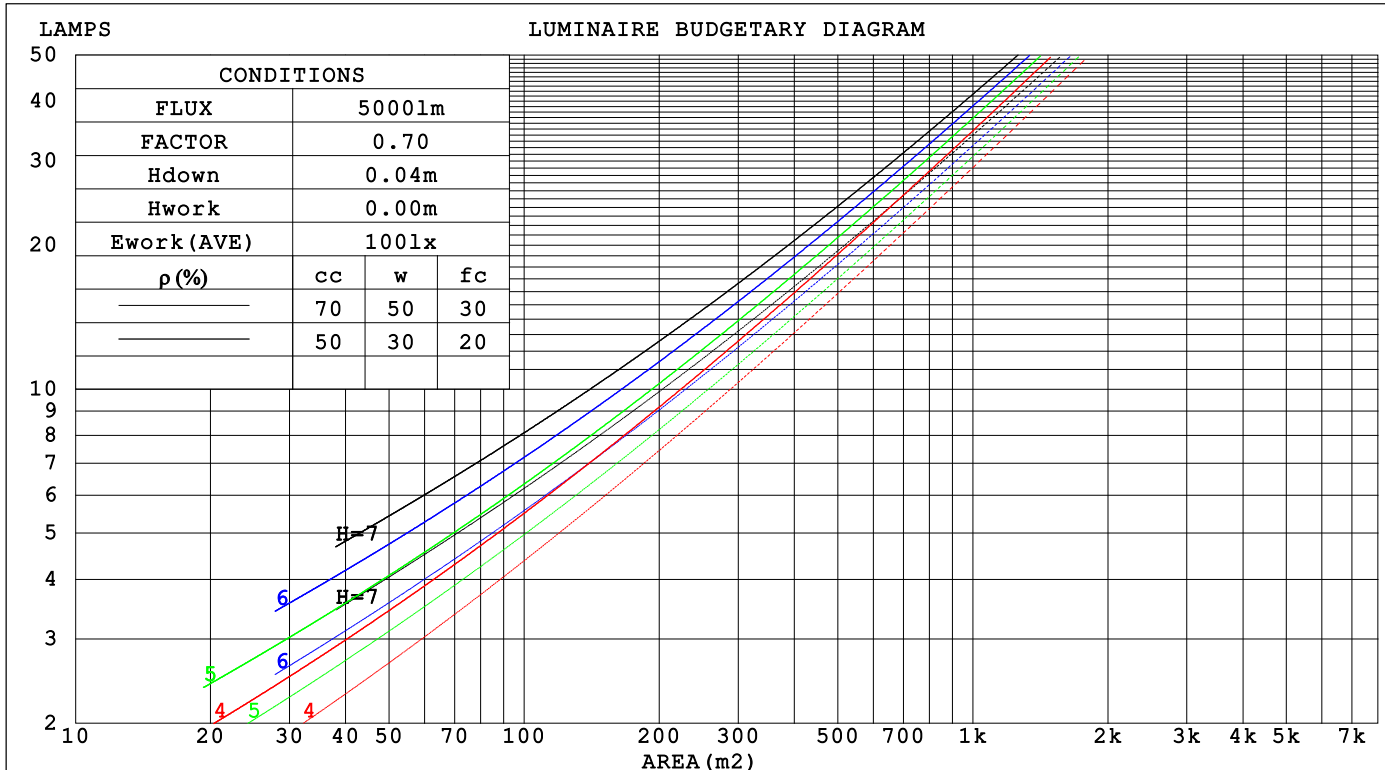
γ Range: 0 - 180DEG
γ Interval: 5.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
Humidity:65.0%
Test Distance:26.000m [K=1.2600]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz		
Lamp Flux:1572.57x1 lm		
NAME: 8978WH-5CCT_IES		
MFR.: Royal Pacific Ltd.		

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															



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2025-08-01

γ Range: 0 - 180DEG
γ Interval: 5.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
Humidity:65.0%
Test Distance:26.000m [K=1.2600]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz											
Lamp Flux:1572.57x1 lm											
NAME: 8978WH-5CCT_IES											
MFR.: Royal Pacific Ltd.											

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	.341	.194	.061	.332	.189	.060	.313	.180	.057	.296	.171	.055	.281	.163	.052	
2.0	.310	.170	.052	.302	.166	.051	.285	.159	.049	.270	.151	.047	.256	.145	.046	
3.0	.282	.150	.045	.274	.147	.044	.260	.141	.043	.246	.135	.041	.233	.129	.040	
4.0	.258	.134	.039	.251	.131	.039	.237	.126	.038	.225	.121	.036	.213	.116	.035	
5.0	.236	.120	.035	.230	.118	.034	.218	.114	.033	.207	.109	.032	.196	.105	.032	
6.0	.218	.109	.031	.212	.107	.031	.201	.103	.030	.191	.099	.029	.182	.096	.028	
7.0	.202	.100	.028	.197	.098	.028	.187	.095	.027	.178	.091	.027	.169	.088	.026	
8.0	.188	.092	.026	.183	.090	.026	.174	.087	.025	.166	.084	.024	.158	.081	.024	
9.0	.176	.085	.024	.171	.084	.023	.163	.081	.023	.156	.078	.022	.148	.075	.022	
10.0	.165	.079	.022	.161	.078	.022	.153	.075	.021	.146	.073	.021	.140	.070	.020	

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	.258	.258	.258	.220	.220	.220	.150	.150	.150	.086	.086	.086	.028	.028	.028	
1.0	.250	.224	.200	.214	.192	.172	.147	.132	.119	.084	.076	.069	.027	.025	.022	
2.0	.243	.200	.164	.208	.172	.142	.143	.119	.099	.082	.069	.058	.026	.022	.019	
3.0	.236	.183	.141	.202	.158	.123	.139	.110	.086	.080	.064	.051	.026	.021	.017	
4.0	.228	.170	.126	.196	.147	.110	.135	.103	.077	.078	.060	.046	.025	.020	.015	
5.0	.221	.160	.116	.189	.139	.101	.130	.097	.071	.076	.057	.042	.024	.019	.014	
6.0	.213	.152	.108	.183	.132	.094	.126	.092	.067	.073	.054	.040	.024	.018	.013	
7.0	.206	.145	.102	.177	.126	.089	.123	.088	.063	.071	.052	.038	.023	.017	.012	
8.0	.200	.140	.098	.172	.121	.086	.119	.085	.061	.069	.050	.036	.022	.016	.012	
9.0	.194	.135	.095	.167	.117	.083	.116	.082	.059	.067	.049	.035	.022	.016	.012	
10.0	.188	.130	.092	.162	.113	.081	.112	.080	.057	.066	.047	.034	.021	.015	.011	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2025-08-01

γ Range: 0 - 180DEG
γ Interval: 5.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
Humidity:65.0%
Test Distance:26.000m [K=1.2600]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz		
Lamp Flux:1572.57x1 lm		
NAME: 8978WH-5CCT_IES		
MFR.: Royal Pacific Ltd.		

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) $k(RI) \times RCR = 5$									
$k = 0.60$	53	41	33	52	40	33	50	39	33	26
0.80	62	50	42	61	49	42	59	48	41	34
1.00	70	58	51	69	58	50	66	58	49	41
1.25	77	66	58	76	65	57	72	63	56	48
1.50	83	72	64	80	70	63	76	68	61	52
2.00	90	80	73	87	78	72	83	75	69	60
2.50	94	85	78	91	83	77	86	80	74	64
3.00	98	90	83	95	87	82	89	83	79	68
4.00	102	95	90	99	93	88	93	88	84	72
5.00	105	99	94	101	96	92	95	91	88	76
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

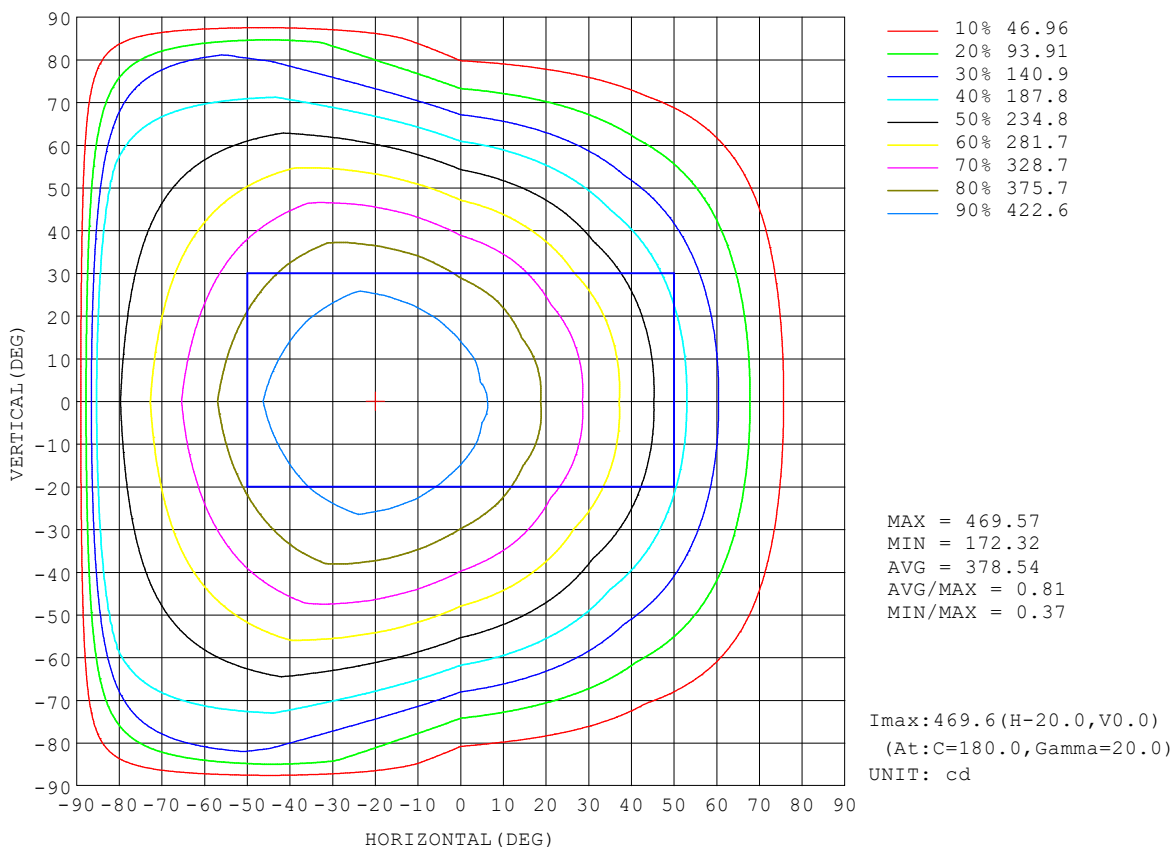
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2025-08-01

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.2600]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz		
Lamp Flux:1572.57x1 lm		
NAME: 8978WH-5CCT_IES		
MFR.: Royal Pacific Ltd.		



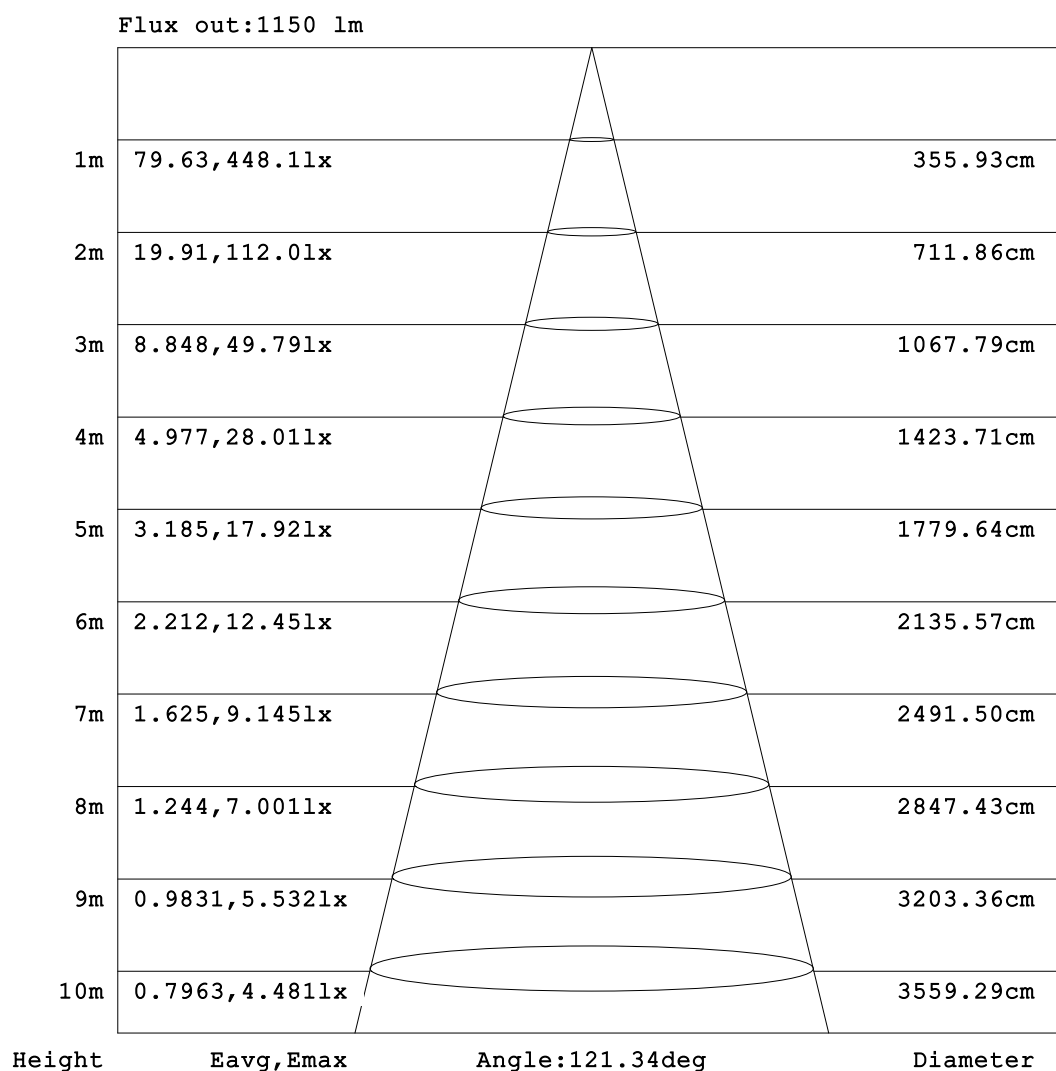
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2025-08-01

γ Range: 0 - 180DEG
γ Interval: 5.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
Humidity:65.0%
Test Distance:26.000m [K=1.2600]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

AAI Figure

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz		
Lamp Flux:1572.57x1 lm		
NAME: 8978WH-5CCT_IES		
MFR.: Royal Pacific Ltd.		



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

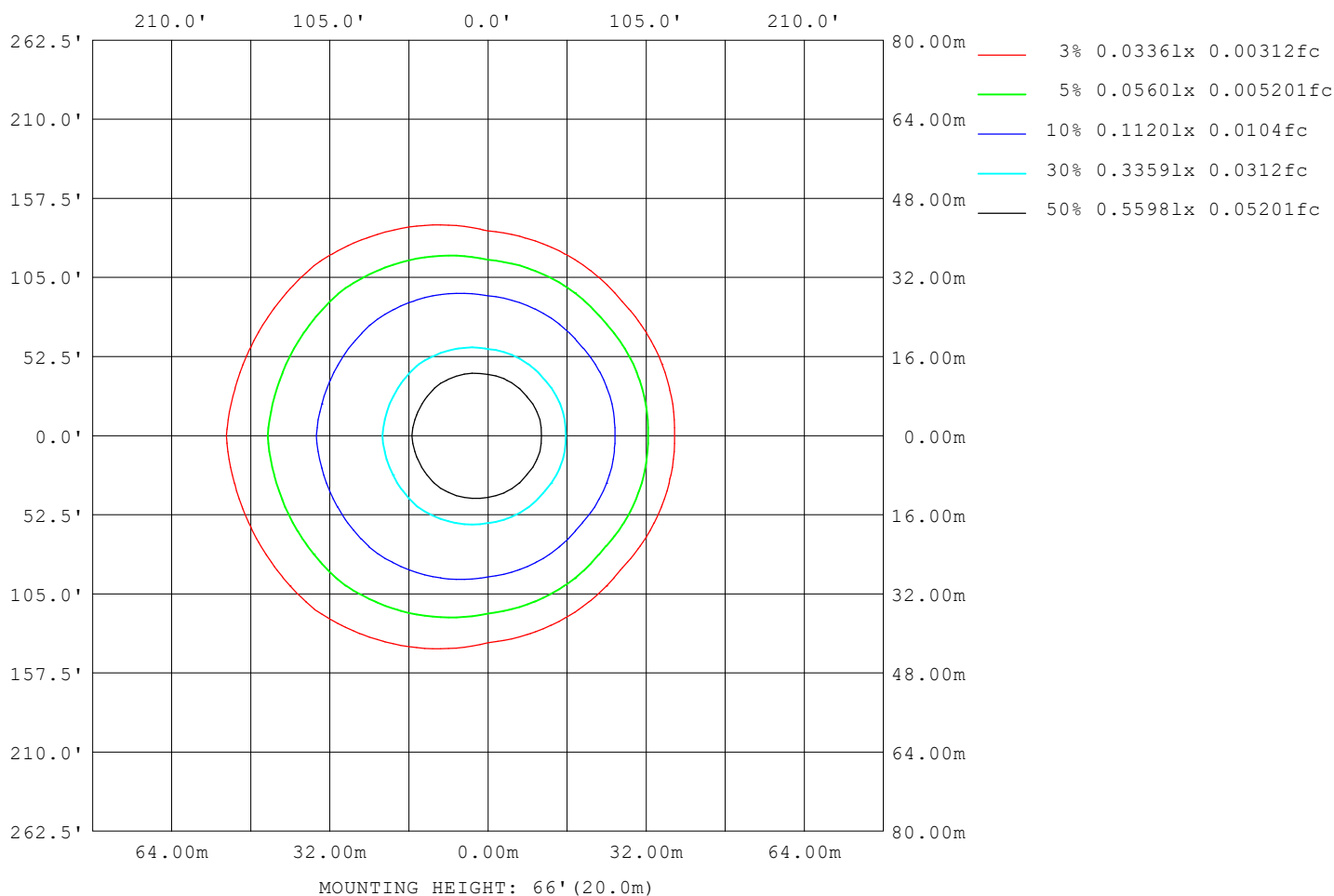
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2025-08-01

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.2600]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz		
Lamp Flux:1572.57x1 lm		
NAME: 8978WH-5CCT_IES		
MFR.: Royal Pacific Ltd.		



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2025-08-01

γ Range: 0 - 180DEG
γ Interval: 5.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
Humidity:65.0%
Test Distance:26.000m [K=1.2600]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LED Avg.L Report

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz Lamp Flux:1572.57x1 lm		
NAME: 8978WH-5CCT_IES		
MFR.: Royal Pacific Ltd.		

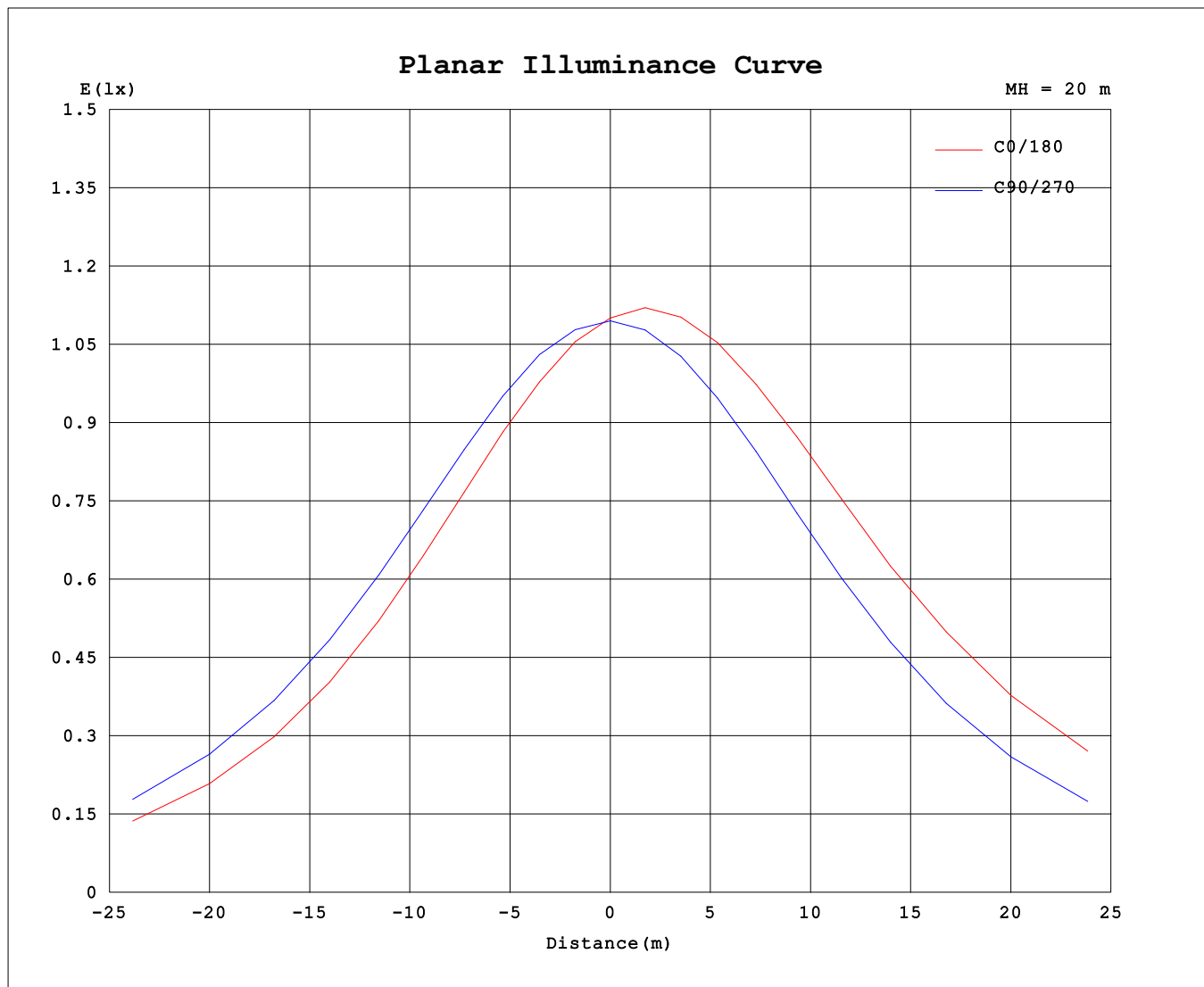
AvgL	cd/m2
L_0~180 (65) av	2781
L_0~180 (75) av	3241
L_0~180 (85) av	6210
L_90~270 (65) av	2020
L_90~270 (75) av	1732
L_90~270 (85) av	1146
L_45 (65) av	2471
L_45 (75) av	2654
L_45 (85) av	4094

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
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Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2025-08-01

γ Range: 0 - 180DEG
γ Interval: 5.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
Humidity:65.0%
Test Distance:26.000m [K=1.2600]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: DAMIN
 Test Date: 2025-08-01

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.2600]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:119.94V I:0.1777A P:20.772W PF:0.9746 Freq:60.01Hz		
Lamp Flux:1572.57x1 lm		
NAME: 8978WH-5CCT_IES		
MFR.: Royal Pacific Ltd.		

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	45	90	135	180	225	270	315										
0	439	439	439	439	439	439	439	439										
5	426	428	437	447	452	447	437	427										
10	409	414	432	452	460	450	431	414										
15	390	397	423	454	466	452	421	398										
20	369	379	410	451	468	449	408	379										
25	346	356	395	446	468	443	391	358										
30	320	331	376	437	463	433	372	333										
35	293	305	353	424	454	421	349	307										
40	265	276	328	409	443	403	323	278										
45	236	245	300	389	426	384	295	249										
50	206	213	270	367	407	361	264	218										
55	175	181	238	341	384	335	230	185										
60	143	149	202	311	359	304	195	152										
65	112	117	164	279	330	270	157	120										
70	78.8	85.3	127	245	299	235	119	87.2										
75	50.2	52.5	88.2	209	265	199	80.5	56.5										
80	25.1	28.4	52.0	172	232	161	45.3	28.1										
85	4.57	7.15	21.7	132	199	122	15.9	7.02										
90	0.01	0.00	0.00	4.18	9.30	6.01	0.04	0.00										
95	0.08	0.00	0.61	95.0	145	80.6	0.00	0.00										
100	0.00	0.00	0.37	89.6	141	74.7	0.00	0.00										
105	0.15	0.00	0.00	80.8	128	66.8	0.00	0.00										
110	0.08	0.00	0.00	72.2	116	59.4	0.00	0.00										
115	0.08	0.00	0.00	63.9	104	53.2	0.00	0.00										
120	0.08	0.00	0.00	56.2	91.7	48.0	0.00	0.00										
125	0.08	0.00	0.00	48.4	80.5	44.5	0.00	0.00										
130	0.00	0.00	0.00	41.5	69.7	42.0	0.00	0.00										
135	0.00	0.00	0.00	34.8	59.1	39.3	0.15	0.00										
140	0.00	0.00	0.00	28.3	48.9	36.4	0.30	0.00										
145	0.00	0.00	0.00	21.8	39.0	31.8	0.68	0.08										
150	0.00	0.00	0.00	0.93	29.8	26.0	0.68	0.00										
155	0.00	0.00	0.00	0.61	20.5	18.9	0.53	0.00										
160	0.00	0.00	0.00	4.10	0.48	0.53	0.00	0.00										
165	0.00	0.00	0.00	0.91	4.06	4.02	0.00	0.00										
170	0.00	0.00	0.00	0.61	0.68	0.00	0.00	0.00										
175	0.00	0.00	0.00	0.61	0.68	0.00	0.00	0.00										
180	0.00	0.00	0.00	0.61	0.68	0.00	0.00	0.00										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2025-08-01

γ Range: 0 - 180DEG
γ Interval: 5.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
Humidity:65.0%
Test Distance:26.000m [K=1.2600]
Remarks: