

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P912618

Luminaire Tested: DFN2DIP-TR3F0-050D080US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912618
REPORT IS A COMBINATION OF REPORTS P900346 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-050D080US850-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

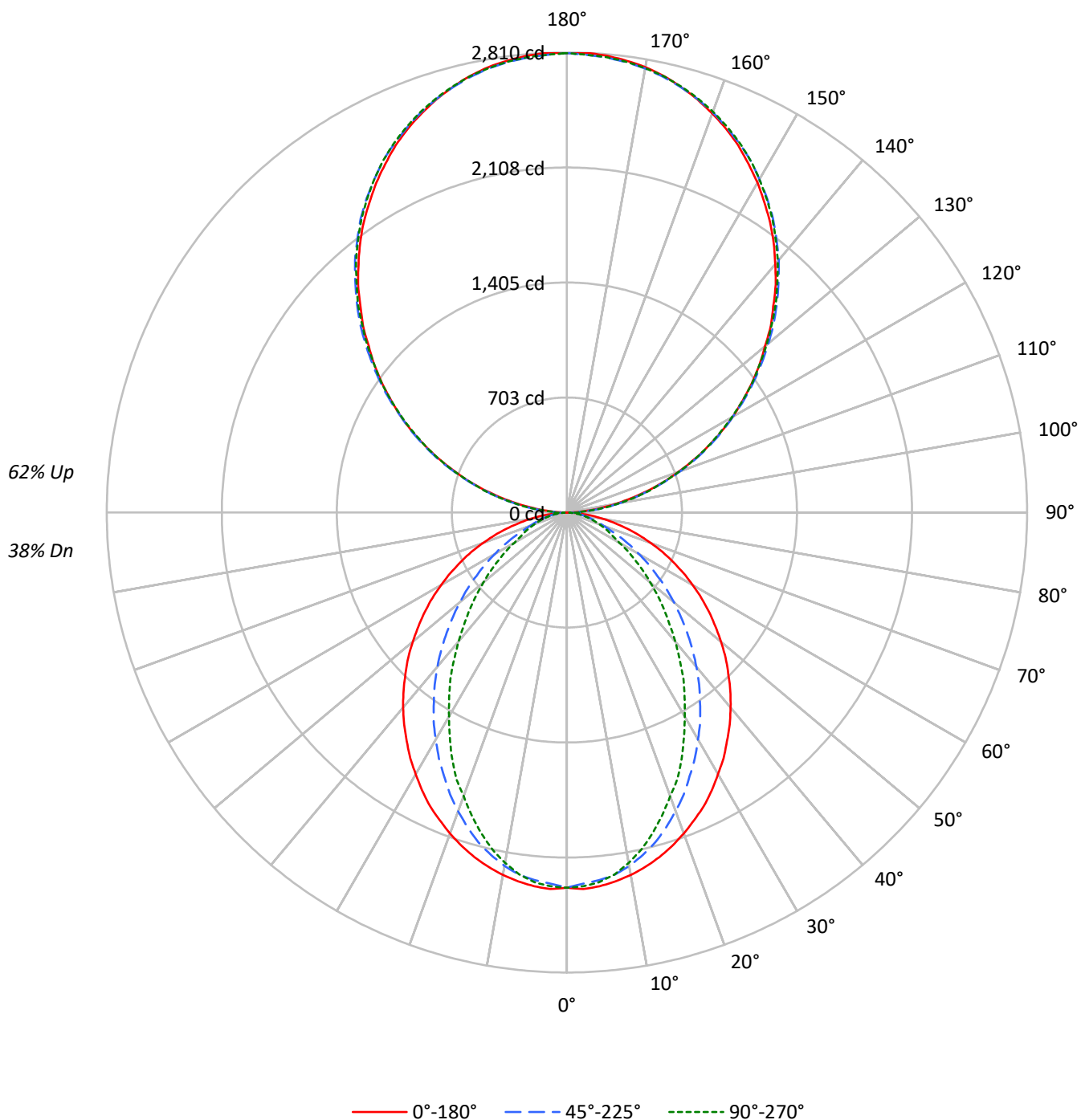
Lumens per Lamp: N/A
Luminaire Lumens: 12565.0 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 106.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	104	104	104	104	95	95	95	95	76	76	76	60	60	60	45	45	45	38		
1	95	91	88	84	86	83	80	77	67	65	63	53	52	50	40	39	38	32		
2	87	80	74	69	79	73	68	64	59	56	53	47	45	43	36	34	33	28		
3	80	71	64	58	72	64	58	54	53	48	45	42	39	37	32	30	28	24		
4	73	63	55	49	66	57	51	46	47	42	39	38	34	32	29	27	25	21		
5	67	56	48	42	61	51	44	39	42	37	33	34	30	28	26	24	22	18		
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16		
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	17	15		
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16	13		
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	19	16	14	12		
10	46	35	28	23	42	32	26	21	27	22	19	22	18	16	17	15	13	11		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2856	2856	2856
5°	2859	2808	2827
10°	2829	2751	2733
15°	2788	2657	2589
20°	2735	2530	2413
25°	2681	2387	2243
30°	2608	2241	2028
35°	2537	2085	1840
40°	2465	1923	1624
45°	2381	1743	1428
50°	2294	1563	1237
55°	2203	1370	1054
60°	2097	1168	865
65°	1976	964	777
70°	1828	774	700
75°	1643	677	633
80°	1375	561	543
85°	936	363	397

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2740 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.8	1.7
10°-20°	589.6	4.7
20°-30°	827.8	6.6
30°-40°	902.4	7.2
40°-50°	829.4	6.6
50°-60°	651.3	5.2
60°-70°	424.0	3.4
70°-80°	218.2	1.7
80°-90°	63.7	0.5
90°-100°	173.6	1.4
100°-110°	551.7	4.4
110°-120°	944.1	7.5
120°-130°	1241.6	9.9
130°-140°	1393.7	11.1
140°-150°	1366.6	10.9
150°-160°	1146.4	9.1
160°-170°	760.3	6.1
170°-180°	265.7	2.1
0°-30°	1632.2	13.0
0°-40°	2534.6	20.2
0°-60°	4015.3	32.0
0°-90°	4721.3	37.6
90°-120°	1669.4	13.3
90°-150°	5671.3	45.1
90°-180°	7844.0	62.4
0°-180°	12565.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2292	2292	2292	2292	2292	
5°	2292	2281	2254	2273	2267	217
15°	2180	2157	2086	2047	2026	614
25°	1979	1912	1775	1690	1659	910
35°	1705	1599	1417	1286	1240	1067
45°	1394	1255	1037	890	840	1076
55°	1060	898	674	550	510	947
65°	716	548	361	290	284	709
75°	382	236	166	151	149	404
85°	89	46	39	39	39	102
90°	3	30	83	78	80	12
95°	124	147	151	151	147	137
105°	509	516	521	525	525	537
115°	947	961	957	954	947	937
125°	1378	1399	1392	1385	1382	1231
135°	1782	1809	1814	1811	1804	1378
145°	2164	2181	2194	2197	2188	1352
155°	2474	2481	2489	2500	2493	1139
165°	2692	2689	2689	2706	2694	759
175°	2801	2794	2789	2806	2792	266
180°	2806	2806	2806	2806	2806	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2291.7	2291.7	2291.7	2291.7	2291.7
2.5°	2302.1	2291.7	2268.9	2289.8	2285.5
5°	2291.7	2281.4	2254.4	2273.0	2266.9
7.5°	2273.0	2260.7	2231.6	2239.8	2229.4
10°	2248.2	2233.6	2192.3	2185.9	2173.5
12.5°	2217.1	2198.5	2142.4	2130.1	2107.1
15°	2179.7	2156.9	2086.5	2047.1	2026.4
17.5°	2136.2	2103.0	2015.8	1970.2	1937.0
20°	2086.5	2044.9	1941.2	1889.5	1843.7
22.5°	2032.6	1984.8	1864.5	1794.0	1763.0
25°	1978.6	1912.1	1775.3	1690.3	1659.1
27.5°	1914.4	1843.7	1692.3	1594.9	1547.2
30°	1845.9	1767.0	1601.1	1495.4	1439.3
32.5°	1779.5	1684.0	1514.1	1389.6	1337.7
35°	1704.9	1599.1	1416.6	1285.9	1240.2
37.5°	1632.2	1518.1	1325.4	1182.1	1130.4
40°	1555.5	1431.2	1229.8	1082.6	1028.7
42.5°	1476.7	1344.0	1134.5	980.9	929.2
45°	1393.8	1254.7	1037.0	889.6	839.8
47.5°	1314.9	1167.8	943.8	796.4	750.8
50°	1227.9	1080.6	852.5	709.2	665.8
52.5°	1142.7	987.1	765.3	628.5	589.1
55°	1059.8	898.0	673.9	549.6	510.3
57.5°	974.8	808.9	593.2	477.1	443.8
60°	887.6	721.7	508.0	402.5	369.2
62.5°	802.7	636.8	435.5	336.0	319.5
65°	715.5	547.5	360.9	290.4	284.1
67.5°	632.6	464.6	290.4	255.1	248.9
70°	545.5	383.7	240.5	219.8	211.5
72.5°	462.6	309.0	201.2	184.6	180.4
75°	381.6	236.3	165.9	151.4	149.4
77.5°	300.8	167.9	130.8	122.3	118.1
80°	226.0	120.3	99.5	91.3	91.3
82.5°	157.6	81.0	68.4	64.2	64.2
85°	89.2	45.6	39.4	39.4	39.4
87.5°	33.3	16.5	16.5	14.5	14.5
90°	2.6	30.5	83.0	77.9	80.4
92.5°	52.5	71.1	73.6	76.1	76.1
95°	123.5	147.2	151.4	151.4	147.2
97.5°	205.6	227.6	236.9	236.9	236.9
100°	300.3	319.7	326.5	326.5	323.9
102.5°	400.1	414.5	423.7	426.3	423.7
105°	509.3	516.0	521.1	525.3	525.3
107.5°	617.5	627.7	627.7	629.4	617.5
110°	722.4	735.9	735.9	735.9	729.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	835.7	850.2	847.6	840.8	835.7
115°	947.4	960.9	956.7	954.2	947.4
117.5°	1058.2	1076.8	1065.0	1058.2	1051.4
120°	1169.9	1188.5	1169.9	1169.9	1162.2
122.5°	1271.4	1295.1	1283.2	1276.5	1271.4
125°	1377.9	1399.1	1392.3	1384.7	1382.3
127.5°	1482.1	1508.2	1498.9	1488.8	1482.1
130°	1579.3	1609.7	1605.5	1600.5	1591.2
132.5°	1688.5	1712.1	1713.8	1702.0	1695.2
135°	1782.3	1808.6	1813.7	1811.1	1804.3
137.5°	1887.2	1908.4	1912.6	1910.9	1900.7
140°	1979.5	2000.5	2012.4	2012.4	2003.1
142.5°	2074.2	2095.3	2102.1	2104.7	2095.3
145°	2163.9	2180.7	2194.3	2196.8	2187.5
147.5°	2244.2	2265.4	2275.4	2279.8	2270.5
150°	2327.1	2341.4	2350.7	2358.4	2350.7
152.5°	2400.7	2415.1	2426.9	2436.3	2426.9
155°	2474.3	2481.1	2488.7	2500.5	2492.9
157.5°	2537.7	2542.8	2547.0	2563.9	2552.1
160°	2594.4	2599.5	2602.0	2616.4	2606.3
162.5°	2646.9	2646.9	2649.4	2665.5	2653.6
165°	2691.7	2689.1	2689.1	2706.1	2694.2
167.5°	2732.2	2724.7	2724.7	2741.6	2729.7
170°	2762.7	2756.0	2753.4	2770.4	2756.0
172.5°	2783.9	2777.2	2774.6	2791.5	2777.2
175°	2800.8	2794.0	2788.9	2805.9	2791.5
177.5°	2810.1	2803.3	2798.2	2812.6	2798.2
180°	2805.9	2805.9	2805.9	2805.9	2805.9

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	9.46	10.19	10.52	11.26	12.70	5.43	6.17	6.50	7.23	8.67
	3H	11.12	11.78	12.19	12.85	14.31	6.61	7.27	7.68	8.34	9.80
	4H	11.71	12.34	12.80	13.41	14.88	7.05	7.68	8.13	8.75	10.21
	6H	12.12	12.70	13.22	13.77	15.25	7.36	7.94	8.45	9.01	10.49
	8H	12.24	12.79	13.34	13.88	15.35	7.45	7.99	8.54	9.09	10.56
	12H	12.30	12.82	13.40	13.90	15.40	7.49	8.00	8.59	9.09	10.58
4H	2H	9.46	10.09	10.55	11.16	12.62	6.01	6.64	7.10	7.71	9.17
	3H	11.27	11.79	12.37	12.89	14.37	7.35	7.87	8.44	8.97	10.44
	4H	11.95	12.43	13.05	13.52	15.02	7.89	8.36	8.99	9.45	10.95
	6H	12.45	12.86	13.56	13.98	15.47	8.29	8.70	9.40	9.82	11.31
	8H	12.62	13.00	13.73	14.11	15.62	8.42	8.80	9.53	9.90	11.41
	12H	12.71	13.05	13.83	14.17	15.68	8.47	8.82	9.60	9.94	11.45
8H	4H	11.91	12.29	13.02	13.40	14.91	8.15	8.54	9.26	9.64	11.15
	6H	12.46	12.78	13.60	13.93	15.43	8.66	8.98	9.79	10.12	11.63
	8H	12.67	12.95	13.81	14.08	15.60	8.85	9.12	9.98	10.25	11.77
	12H	12.80	13.05	13.94	14.17	15.73	8.96	9.20	10.10	10.32	11.88
12H	4H	11.86	12.20	12.99	13.32	14.83	8.15	8.50	9.28	9.62	11.13
	6H	12.44	12.71	13.58	13.84	15.37	8.71	8.98	9.84	10.11	11.63
	8H	12.65	12.89	13.79	14.02	15.58	8.91	9.15	10.05	10.27	11.84