

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: P925127

Luminaire Tested: DFN2DIP-PN4F0-080D070US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925127
REPORT IS A COMBINATION OF REPORTS P901192 AND P898053
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-080D070US950-RLLONL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

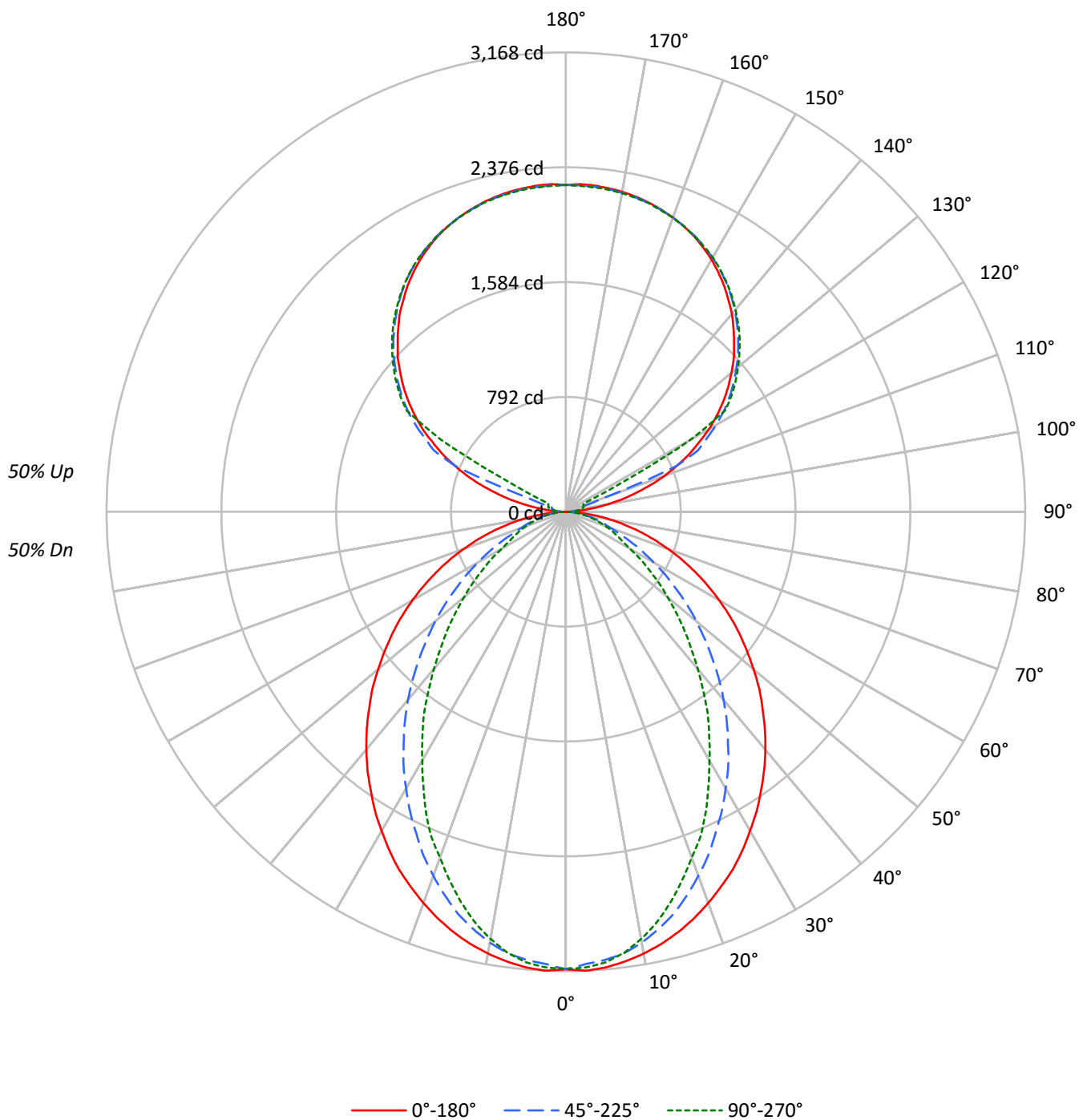
Lumens per Lamp: N/A
Luminaire Lumens: 13098.4 lumens
Efficiency: N/A
Efficacy: 101.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 129.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56
1	98	94	90	87	90	87	84	81	74	71	69	61	60	58	50	49	48
2	90	83	77	72	83	77	71	67	65	61	58	54	52	49	45	43	41
3	82	73	66	60	76	68	62	57	58	53	49	49	45	42	40	38	36
4	75	65	57	52	69	60	54	48	52	47	42	44	40	37	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	33	30	27
6	64	52	44	39	59	49	42	37	42	37	32	36	32	28	30	27	24
7	59	47	40	34	55	44	37	32	38	33	29	33	28	25	27	24	22
8	55	43	36	30	51	40	34	29	35	30	26	30	26	23	25	22	20
9	51	39	32	27	48	37	30	26	32	27	23	28	23	21	23	20	18
10	48	36	29	25	45	34	28	23	30	25	21	26	22	19	22	19	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2303	2303	2303
5°	2306	2266	2281
10°	2283	2222	2207
15°	2252	2149	2093
20°	2210	2048	1952
25°	2168	1935	1817
30°	2111	1819	1644
35°	2055	1694	1493
40°	1998	1565	1320
45°	1931	1421	1162
50°	1863	1276	1009
55°	1791	1122	861
60°	1708	960	709
65°	1613	795	639
70°	1498	642	579
75°	1353	566	528
80°	1143	476	459
85°	796	319	348

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1931 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.6	2.3
10°-20°	811.5	6.2
20°-30°	1139.4	8.7
30°-40°	1242.0	9.5
40°-50°	1141.5	8.7
50°-60°	896.5	6.8
60°-70°	583.5	4.5
70°-80°	300.4	2.3
80°-90°	80.6	0.6
90°-100°	74.3	0.6
100°-110°	277.0	2.1
110°-120°	734.8	5.6
120°-130°	1218.6	9.3
130°-140°	1294.5	9.9
140°-150°	1203.1	9.2
150°-160°	967.2	7.4
160°-170°	623.3	4.8
170°-180°	214.5	1.6
0°-30°	2246.6	17.2
0°-40°	3488.6	26.6
0°-60°	5526.6	42.2
0°-90°	6491.2	49.6
90°-120°	1086.1	8.3
90°-150°	4802.2	36.7
90°-180°	6607.0	50.4
0°-180°	13098.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3154	3154	3154	3154	3154	
5°	3154	3140	3103	3128	3120	299
15°	3000	2969	2872	2818	2789	845
25°	2723	2632	2444	2327	2284	1252
35°	2347	2201	1950	1770	1707	1469
45°	1918	1727	1427	1224	1156	1481
55°	1459	1236	928	756	702	1303
65°	985	754	497	400	391	976
75°	525	325	228	208	206	555
85°	123	63	54	54	54	141
90°	2	20	32	41	44	12
95°	106	52	64	72	70	125
105°	496	545	100	117	124	530
115°	938	965	1006	251	134	923
125°	1326	1347	1378	1390	1394	1182
135°	1641	1667	1681	1698	1694	1267
145°	1903	1902	1929	1941	1932	1190
155°	2096	2081	2100	2110	2097	966
165°	2208	2198	2203	2215	2203	624
175°	2259	2247	2250	2262	2246	215
180°	2254	2254	2254	2254	2254	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3154.3	3154.3	3154.3	3154.3	3154.3
2.5°	3168.5	3154.3	3122.8	3151.5	3145.8
5°	3154.3	3140.1	3102.8	3128.5	3120.1
7.5°	3128.5	3111.6	3071.6	3082.9	3068.5
10°	3094.3	3074.4	3017.4	3008.6	2991.6
12.5°	3051.7	3025.9	2948.6	2931.6	2900.2
15°	3000.1	2968.7	2871.7	2817.5	2789.0
17.5°	2940.1	2894.4	2774.5	2711.8	2666.0
20°	2871.7	2814.5	2671.9	2600.7	2537.6
22.5°	2797.5	2731.8	2566.2	2469.2	2426.5
25°	2723.3	2631.9	2443.5	2326.6	2283.6
27.5°	2634.9	2537.6	2329.3	2195.2	2129.4
30°	2540.7	2431.9	2203.6	2058.3	1981.0
32.5°	2449.2	2317.8	2084.0	1912.6	1841.1
35°	2346.6	2200.9	1949.8	1770.0	1706.9
37.5°	2246.6	2089.5	1824.1	1627.0	1555.8
40°	2141.0	1969.8	1692.7	1490.1	1415.8
42.5°	2032.5	1849.9	1561.5	1350.2	1278.9
45°	1918.3	1726.9	1427.4	1224.5	1156.1
47.5°	1809.9	1607.3	1299.0	1096.1	1033.4
50°	1689.9	1487.4	1173.3	976.1	916.4
52.5°	1572.8	1358.6	1053.3	865.0	810.8
55°	1458.6	1236.0	927.7	756.5	702.3
57.5°	1341.7	1113.3	816.5	656.6	610.8
60°	1221.7	993.4	699.3	553.9	508.2
62.5°	1104.8	876.4	599.4	462.5	439.8
65°	984.9	753.5	496.7	399.8	390.9
67.5°	870.7	639.4	399.8	351.0	342.6
70°	750.8	528.2	331.0	302.5	291.1
72.5°	636.6	425.2	276.9	254.1	248.3
75°	525.2	325.3	228.4	208.4	205.7
77.5°	414.0	231.1	179.9	168.4	162.7
80°	311.0	165.7	136.9	125.6	125.6
82.5°	216.8	111.4	94.2	88.4	88.4
85°	122.7	62.7	54.2	54.2	54.2
87.5°	45.7	22.7	22.7	20.0	20.0
90°	1.5	19.6	32.5	40.8	44.0
92.5°	40.8	34.2	39.1	42.5	44.0
95°	105.9	52.1	63.5	71.8	70.1
97.5°	190.7	57.1	83.1	88.1	89.7
100°	288.8	65.3	92.9	105.9	109.2
102.5°	396.2	393.1	96.3	114.1	119.1
105°	495.8	544.7	99.5	117.3	123.9
107.5°	611.5	652.2	102.8	120.7	127.3
110°	722.6	756.6	285.4	122.4	128.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	826.9	856.1	828.5	125.5	130.5
115°	937.7	965.4	1006.2	251.2	133.8
117.5°	1033.9	1066.5	1094.3	861.0	433.8
120°	1141.6	1166.0	1195.5	1215.0	994.8
122.5°	1232.8	1258.9	1291.7	1301.4	1303.1
125°	1325.8	1347.0	1378.1	1389.5	1394.3
127.5°	1410.6	1433.4	1458.0	1474.3	1475.8
130°	1490.5	1516.7	1534.5	1552.5	1551.0
132.5°	1572.1	1593.4	1611.2	1625.9	1624.4
135°	1640.6	1666.7	1681.3	1697.7	1694.5
137.5°	1712.2	1731.9	1748.3	1764.6	1759.7
140°	1782.4	1795.5	1813.4	1828.1	1819.9
142.5°	1841.2	1852.7	1873.8	1886.7	1878.6
145°	1903.2	1901.5	1929.2	1940.6	1932.5
147.5°	1956.8	1952.1	1979.7	1987.8	1981.5
150°	2009.1	1997.8	2023.9	2033.5	2025.4
152.5°	2053.1	2040.1	2064.6	2074.4	2063.0
155°	2095.6	2081.0	2100.5	2110.2	2097.3
157.5°	2129.8	2116.8	2131.5	2143.0	2129.8
160°	2159.3	2149.4	2159.3	2168.9	2157.5
162.5°	2185.2	2175.5	2183.6	2195.1	2180.4
165°	2208.0	2198.4	2203.2	2214.6	2203.2
167.5°	2226.1	2216.1	2221.2	2232.6	2218.0
170°	2240.8	2230.9	2234.2	2245.6	2230.9
172.5°	2250.5	2240.8	2244.1	2255.4	2240.8
175°	2258.6	2247.1	2250.5	2261.8	2245.6
177.5°	2261.8	2250.5	2252.2	2263.7	2248.9
180°	2253.7	2253.7	2253.7	2253.7	2253.7

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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	10.01	10.84	10.98	11.81	13.09	5.97	6.80	6.94	7.78	9.06
	3H	11.69	12.43	12.67	13.42	14.72	7.16	7.90	8.14	8.89	10.19
	4H	12.30	13.00	13.29	13.99	15.30	7.61	8.31	8.61	9.30	10.62
	6H	12.72	13.37	13.73	14.36	15.69	7.94	8.58	8.94	9.57	10.90
	8H	12.85	13.46	13.86	14.48	15.80	8.03	8.64	9.04	9.65	10.97
	12H	12.92	13.50	13.93	14.50	15.85	8.07	8.65	9.08	9.66	11.00
4H	2H	10.03	10.73	11.03	11.72	13.03	6.57	7.27	7.57	8.26	9.57
	3H	11.86	12.44	12.87	13.46	14.78	7.92	8.50	8.93	9.52	10.85
	4H	12.55	13.08	13.57	14.10	15.44	8.47	9.00	9.49	10.01	11.36
	6H	13.07	13.53	14.10	14.56	15.91	8.89	9.35	9.92	10.38	11.73
	8H	13.25	13.67	14.28	14.70	16.06	9.02	9.45	10.05	10.47	11.83
	12H	13.35	13.73	14.39	14.77	16.14	9.09	9.47	10.13	10.51	11.88
8H	4H	12.52	12.95	13.55	13.98	15.34	8.75	9.18	9.78	10.21	11.57
	6H	13.09	13.44	14.14	14.51	15.87	9.27	9.62	10.32	10.69	12.05
	8H	13.31	13.62	14.37	14.67	16.05	9.46	9.77	10.52	10.83	12.20
	12H	13.45	13.72	14.51	14.77	16.19	9.58	9.86	10.64	10.91	12.32
12H	4H	12.47	12.86	13.52	13.90	15.27	8.76	9.14	9.80	10.19	11.55
	6H	13.07	13.38	14.12	14.43	15.81	9.32	9.63	10.38	10.69	12.06
	8H	13.29	13.56	14.35	14.61	16.03	9.53	9.81	10.59	10.86	12.27

END OF REPORT