

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: P911715

Luminaire Tested: DFN2DIP-SQ2F0-050D060US850-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911715
REPORT IS A COMBINATION OF REPORTS P901332 AND P898215
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-050D060US850-RLLONL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

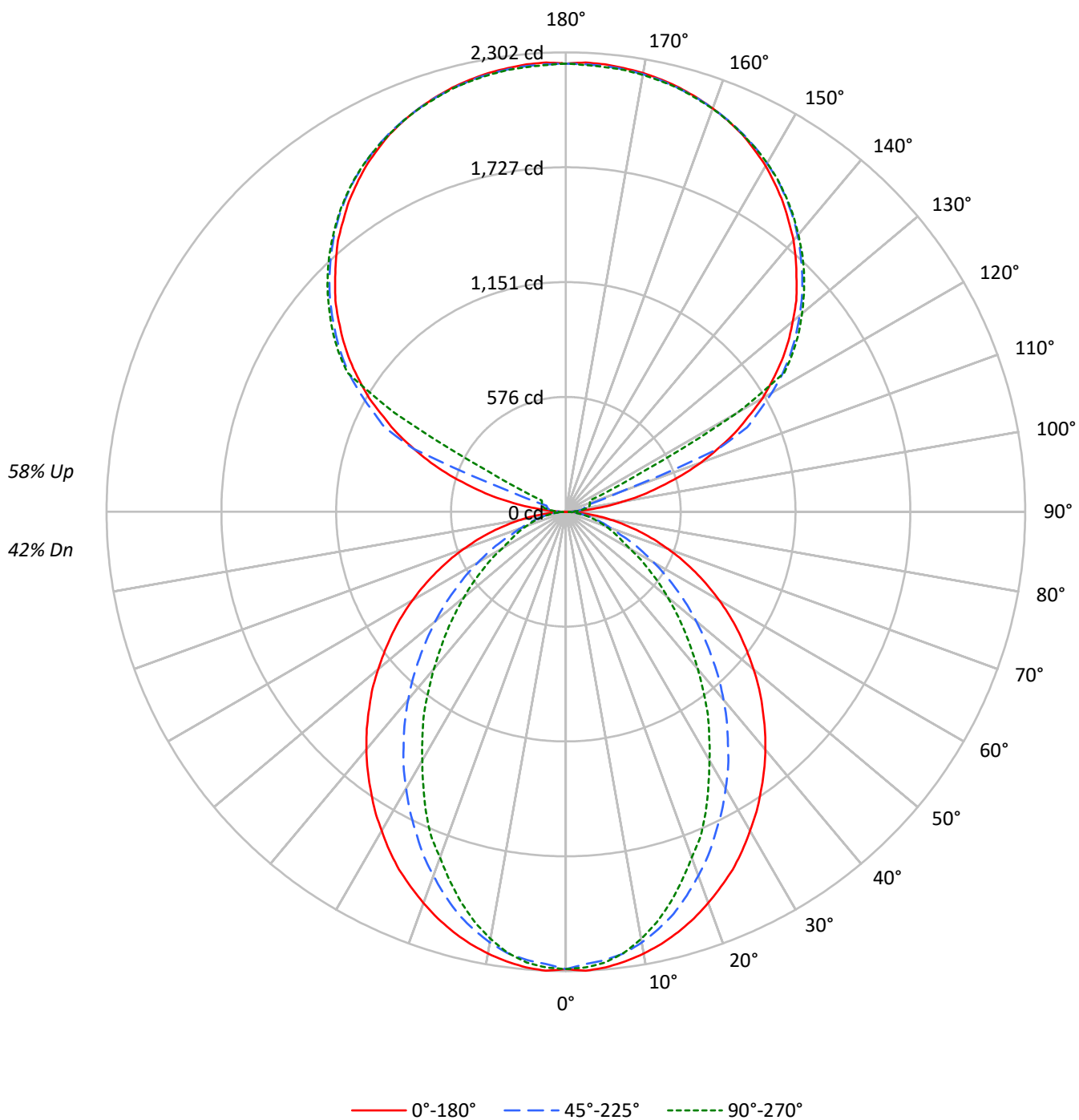
Lumens per Lamp: N/A
Luminaire Lumens: 11300.7 lumens
Efficiency: N/A
Efficacy: 125.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 90.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P911715

CATALOG NUMBER: DFN2DIP-SQ2F0-050D060US850-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P911715

CATALOG NUMBER: DFN2DIP-SQ2F0-050D060US850-RLLONL

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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49
1	96	92	89	85	88	84	81	78	70	67	65	56	55	53	43	43	42
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36
3	81	72	65	59	73	66	60	55	55	50	46	44	41	39	35	33	31
4	74	64	56	50	67	58	52	47	49	44	40	40	36	33	31	29	27
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	28	26	24
6	63	51	43	38	57	47	40	35	39	34	30	32	29	26	26	23	21
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	34	29	49	39	32	27	33	28	24	27	23	20	22	19	17
9	50	38	31	26	46	35	29	25	30	25	22	25	21	18	20	17	15
10	47	35	28	23	43	33	26	22	28	23	19	23	19	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5039	5039	5039
5°	5039	4948	4984
10°	4980	4840	4815
15°	4903	4670	4558
20°	4803	4439	4244
25°	4701	4183	3942
30°	4568	3921	3562
35°	4436	3640	3227
40°	4302	3350	2845
45°	4147	3031	2499
50°	3986	2710	2161
55°	3817	2367	1838
60°	3620	2011	1506
65°	3394	1651	1348
70°	3120	1315	1210
75°	2774	1138	1086
80°	2278	925	920
85°	1484	574	655

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4147 cd/sqm

TEST NUMBER: P911715

CATALOG NUMBER: DFN2DIP-SQ2F0-050D060US850-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.8	1.9
10°-20°	589.6	5.2
20°-30°	827.8	7.3
30°-40°	902.4	8.0
40°-50°	829.4	7.3
50°-60°	651.3	5.8
60°-70°	424.0	3.8
70°-80°	218.2	1.9
80°-90°	59.7	0.5
90°-100°	74.1	0.7
100°-110°	276.0	2.4
110°-120°	732.1	6.5
120°-130°	1214.2	10.7
130°-140°	1289.8	11.4
140°-150°	1198.7	10.6
150°-160°	963.8	8.5
160°-170°	621.0	5.5
170°-180°	213.7	1.9
0°-30°	1632.2	14.4
0°-40°	2534.6	22.4
0°-60°	4015.3	35.5
0°-90°	4717.2	41.7
90°-120°	1082.2	9.6
90°-150°	4785.0	42.3
90°-180°	6583.0	58.3
0°-180°	11300.7	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°	2	20	32	41	44	11
95°	106	52	63	72	70	125
105°	494	543	99	117	124	528
115°	934	962	1003	250	133	920
125°	1321	1342	1373	1384	1389	1178
135°	1635	1661	1675	1692	1688	1263
145°	1896	1895	1922	1934	1926	1186
155°	2088	2074	2093	2103	2090	962
165°	2200	2190	2195	2207	2195	622
175°	2250	2239	2242	2254	2238	214
180°	2246	2246	2246	2246	2246	

TEST NUMBER: P911715

CATALOG NUMBER: DFN2DIP-SQ2F0-050D060US850-RLLONL

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°	1.6	19.5	32.4	40.7	43.8
92.5°	40.7	34.2	38.9	42.3	43.8
95°	105.6	51.9	63.3	71.6	69.9
97.5°	190.1	56.9	82.7	87.8	89.4
100°	287.7	65.0	92.6	105.6	108.8
102.5°	394.8	391.7	95.9	113.7	118.7
105°	493.9	542.7	99.1	116.9	123.5
107.5°	609.4	649.9	102.5	120.2	126.8
110°	720.0	753.9	284.5	122.0	128.3

TEST NUMBER: P911715

CATALOG NUMBER: DFN2DIP-SQ2F0-050D060US850-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	823.9	853.0	825.4	125.0	130.1
115°	934.3	961.9	1002.6	250.3	133.3
117.5°	1030.2	1062.6	1090.4	857.9	432.2
120°	1137.5	1161.8	1191.2	1210.6	991.2
122.5°	1228.3	1254.4	1287.0	1296.6	1298.4
125°	1321.0	1342.2	1373.1	1384.5	1389.2
127.5°	1405.5	1428.3	1452.8	1469.0	1470.5
130°	1485.2	1511.2	1529.0	1546.9	1545.4
132.5°	1566.5	1587.6	1605.4	1620.0	1618.5
135°	1634.8	1660.8	1675.3	1691.7	1688.3
137.5°	1706.1	1725.6	1742.0	1758.2	1753.4
140°	1776.0	1789.1	1806.9	1821.5	1813.4
142.5°	1834.6	1846.0	1867.1	1880.0	1871.9
145°	1896.4	1894.6	1922.2	1933.7	1925.6
147.5°	1949.8	1945.0	1972.6	1980.7	1974.4
150°	2002.0	1990.5	2016.6	2026.3	2018.2
152.5°	2045.8	2032.8	2057.1	2067.0	2055.5
155°	2088.0	2073.5	2093.0	2102.7	2089.7
157.5°	2122.2	2109.2	2123.8	2135.3	2122.2
160°	2151.5	2141.6	2151.5	2161.1	2149.8
162.5°	2177.3	2167.7	2175.7	2187.2	2172.5
165°	2200.1	2190.5	2195.3	2206.7	2195.3
167.5°	2218.0	2208.2	2213.2	2224.7	2209.9
170°	2232.7	2222.9	2226.2	2237.5	2222.9
172.5°	2242.4	2232.7	2236.0	2247.4	2232.7
175°	2250.5	2239.1	2242.4	2253.7	2237.5
177.5°	2253.7	2242.4	2244.1	2255.5	2240.8
180°	2245.6	2245.6	2245.6	2245.6	2245.6

TEST NUMBER: P911715

CATALOG NUMBER: DFN2DIP-SQ2F0-050D060US850-RLONL

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	11.83	12.60	12.86	13.63	15.02	7.79	8.56	8.82	9.59	10.98
	3H	13.48	14.17	14.52	15.21	16.62	8.96	9.64	10.00	10.68	12.09
	4H	14.07	14.72	15.13	15.77	17.18	9.39	10.04	10.44	11.08	12.50
	6H	14.48	15.07	15.54	16.12	17.55	9.69	10.29	10.75	11.34	12.76
	8H	14.59	15.16	15.66	16.23	17.65	9.77	10.34	10.84	11.40	12.82
	12H	14.64	15.18	15.72	16.24	17.69	9.80	10.34	10.88	11.40	12.85
4H	2H	11.83	12.48	12.89	13.53	14.94	8.37	9.02	9.43	10.06	11.48
	3H	13.64	14.17	14.70	15.25	16.67	9.69	10.23	10.76	11.30	12.73
	4H	14.31	14.80	15.38	15.87	17.32	10.22	10.71	11.29	11.78	13.23
	6H	14.80	15.23	15.88	16.31	17.76	10.62	11.04	11.70	12.13	13.57
	8H	14.97	15.36	16.05	16.44	17.90	10.73	11.13	11.81	12.21	13.67
	12H	15.05	15.40	16.15	16.50	17.96	10.78	11.14	11.88	12.23	13.70
8H	4H	14.27	14.66	15.35	15.74	17.20	10.48	10.88	11.57	11.96	13.42
	6H	14.81	15.14	15.91	16.26	17.71	10.97	11.30	12.08	12.42	13.88
	8H	15.01	15.30	16.12	16.40	17.88	11.15	11.44	12.26	12.54	14.02
	12H	15.14	15.39	16.25	16.49	18.00	11.25	11.50	12.37	12.60	14.12
12H	4H	14.22	14.57	15.32	15.67	17.13	10.48	10.84	11.58	11.93	13.40
	6H	14.78	15.07	15.89	16.17	17.65	11.02	11.30	12.13	12.41	13.88
	8H	14.99	15.24	16.10	16.34	17.85	11.21	11.46	12.32	12.56	14.07

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

8 of 8