

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: P925435

Luminaire Tested: DFN2DIP-SQ2F0-080D080US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925435
REPORT IS A COMBINATION OF REPORTS P901362 AND P898215
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-080D080US950-RLLONL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

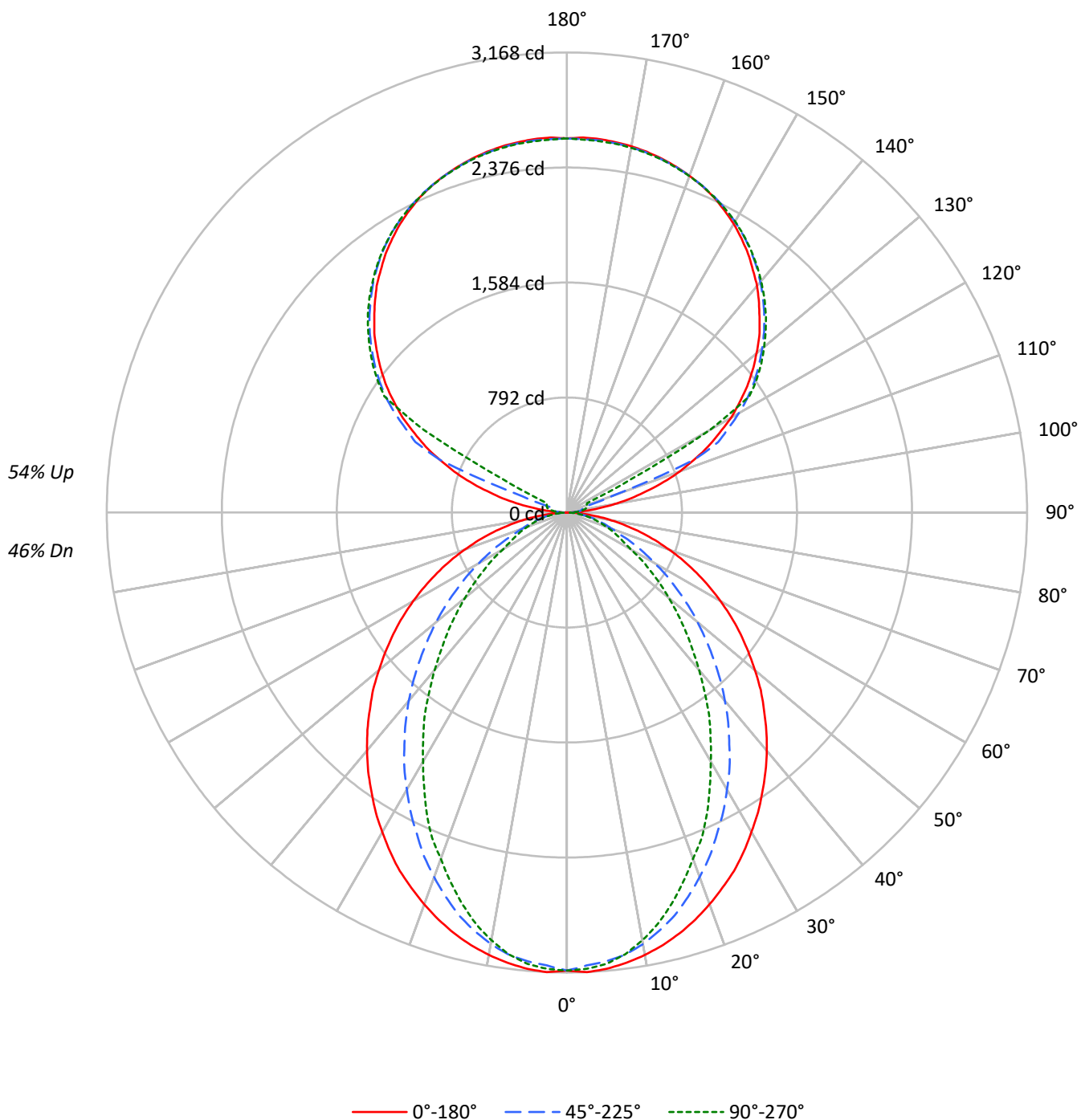
Lumens per Lamp: N/A
Luminaire Lumens: 14042.9 lumens
Efficiency: N/A
Efficacy: 97.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 143.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P925435

CATALOG NUMBER: DFN2DIP-SQ2F0-080D080US950-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P925435

CATALOG NUMBER: DFN2DIP-SQ2F0-080D080US950-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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6936	6936	6936
5°	6935	6811	6860
10°	6854	6662	6627
15°	6748	6427	6273
20°	6611	6110	5842
25°	6471	5757	5426
30°	6287	5396	4902
35°	6106	5010	4441
40°	5921	4611	3915
45°	5707	4172	3440
50°	5485	3730	2975
55°	5253	3259	2529
60°	4983	2769	2073
65°	4672	2273	1854
70°	4294	1810	1665
75°	3818	1567	1495
80°	3135	1272	1266
85°	2041	790	902

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5707 cd/sqm

TEST NUMBER: P925435

CATALOG NUMBER: DFN2DIP-SQ2F0-080D080US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.6	2.1
10°-20°	811.5	5.8
20°-30°	1139.4	8.1
30°-40°	1242.0	8.8
40°-50°	1141.5	8.1
50°-60°	896.5	6.4
60°-70°	583.5	4.2
70°-80°	300.4	2.1
80°-90°	81.2	0.6
90°-100°	84.9	0.6
100°-110°	316.6	2.3
110°-120°	839.7	6.0
120°-130°	1392.7	9.9
130°-140°	1479.4	10.5
140°-150°	1374.9	9.8
150°-160°	1105.4	7.9
160°-170°	712.3	5.1
170°-180°	245.2	1.7
0°-30°	2246.6	16.0
0°-40°	3488.6	24.8
0°-60°	5526.6	39.4
0°-90°	6491.7	46.2
90°-120°	1241.3	8.8
90°-150°	5488.3	39.1
90°-180°	7551.0	53.8
0°-180°	14042.9	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	22	37	47	50	13
95°	121	60	73	82	80	143
105°	567	623	114	134	142	605
115°	1072	1103	1150	287	153	1055
125°	1515	1540	1575	1588	1594	1351
135°	1875	1905	1922	1940	1936	1448
145°	2175	2173	2205	2218	2208	1360
155°	2395	2378	2401	2412	2397	1104
165°	2524	2512	2518	2531	2518	713
175°	2581	2568	2572	2585	2566	246
180°	2576	2576	2576	2576	2576	

TEST NUMBER: P925435

CATALOG NUMBER: DFN2DIP-SQ2F0-080D080US950-RLLONL

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°	1.8	22.3	37.2	46.7	50.3
92.5°	46.7	39.2	44.7	48.5	50.3
95°	121.1	59.5	72.6	82.1	80.1
97.5°	218.0	65.3	94.9	100.7	102.5
100°	330.0	74.6	106.3	121.1	124.8
102.5°	452.9	449.2	110.0	130.3	136.1
105°	566.6	622.6	113.7	134.1	141.7
107.5°	698.9	745.4	117.5	137.9	145.4
110°	825.8	864.7	326.3	139.9	147.2

TEST NUMBER: P925435

CATALOG NUMBER: DFN2DIP-SQ2F0-080D080US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	945.0	978.4	946.8	143.4	149.2
115°	1071.6	1103.3	1150.0	287.1	152.9
117.5°	1181.6	1218.8	1250.7	984.0	495.8
120°	1304.7	1332.5	1366.2	1388.5	1136.9
122.5°	1408.9	1438.8	1476.2	1487.3	1489.3
125°	1515.1	1539.5	1574.9	1587.9	1593.5
127.5°	1612.1	1638.2	1666.4	1684.9	1686.7
130°	1703.5	1733.3	1753.7	1774.3	1772.5
132.5°	1796.7	1821.0	1841.4	1858.2	1856.4
135°	1875.0	1904.9	1921.5	1940.3	1936.5
137.5°	1956.9	1979.3	1998.1	2016.7	2011.1
140°	2037.0	2052.1	2072.5	2089.3	2079.9
142.5°	2104.3	2117.3	2141.4	2156.3	2147.0
145°	2175.1	2173.1	2204.8	2217.9	2208.5
147.5°	2236.5	2230.9	2262.5	2271.9	2264.5
150°	2296.2	2283.1	2313.0	2324.0	2314.8
152.5°	2346.5	2331.6	2359.4	2370.8	2357.7
155°	2394.9	2378.3	2400.6	2411.7	2396.9
157.5°	2434.0	2419.2	2436.0	2449.1	2434.0
160°	2467.7	2456.5	2467.7	2478.8	2465.7
162.5°	2497.4	2486.3	2495.6	2508.6	2491.8
165°	2523.5	2512.5	2518.0	2531.0	2518.0
167.5°	2544.0	2532.8	2538.5	2551.6	2534.8
170°	2560.9	2549.6	2553.4	2566.5	2549.6
172.5°	2572.0	2560.9	2564.6	2577.7	2560.9
175°	2581.2	2568.2	2572.0	2585.0	2566.5
177.5°	2585.0	2572.0	2573.9	2587.0	2570.2
180°	2575.7	2575.7	2575.7	2575.7	2575.7

TEST NUMBER: P925435

CATALOG NUMBER: DFN2DIP-SQ2F0-080D080US950-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	13.40	14.20	14.39	15.20	16.53	9.36	10.16	10.35	11.16	12.49
	3H	15.05	15.77	16.06	16.78	18.13	10.53	11.24	11.53	12.25	13.60
	4H	15.65	16.32	16.67	17.34	18.69	10.96	11.64	11.98	12.65	14.01
	6H	16.05	16.67	17.08	17.69	19.06	11.27	11.89	12.30	12.91	14.28
	8H	16.17	16.76	17.20	17.80	19.16	11.35	11.94	12.38	12.97	14.34
	12H	16.22	16.78	17.26	17.81	19.20	11.38	11.94	12.42	12.97	14.36
4H	2H	13.41	14.08	14.43	15.10	16.45	9.94	10.62	10.96	11.63	12.99
	3H	15.21	15.77	16.24	16.82	18.19	11.27	11.83	12.30	12.87	14.24
	4H	15.89	16.40	16.93	17.44	18.83	11.80	12.31	12.84	13.35	14.74
	6H	16.38	16.82	17.43	17.88	19.27	12.20	12.64	13.25	13.70	15.08
	8H	16.55	16.96	17.60	18.01	19.41	12.31	12.73	13.36	13.78	15.18
	12H	16.63	17.00	17.70	18.07	19.47	12.37	12.74	13.43	13.80	15.21
8H	4H	15.85	16.26	16.90	17.31	18.71	12.06	12.48	13.11	13.53	14.93
	6H	16.39	16.73	17.47	17.83	19.22	12.56	12.90	13.63	13.99	15.39
	8H	16.60	16.89	17.68	17.97	19.39	12.73	13.03	13.81	14.11	15.53
	12H	16.72	16.98	17.80	18.05	19.51	12.84	13.10	13.92	14.17	15.63
12H	4H	15.80	16.17	16.87	17.24	18.64	12.06	12.44	13.13	13.50	14.91
	6H	16.37	16.66	17.45	17.74	19.16	12.60	12.90	13.68	13.98	15.40
	8H	16.57	16.83	17.65	17.91	19.37	12.79	13.06	13.88	14.13	15.59