

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: P925561

Luminaire Tested: DFN2DIP-SQ3F0-070D080US950-FLLONL

Issue Date: 11/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P925561  
REPORT IS A COMBINATION OF REPORTS P901459 AND P898289  
Test Lab: INNOVATION CENTER  
Issue Date: 11/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DIP-SQ3F0-070D080US950-FLLONL  
Description: 3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Open No Lens  
Light Source: -  
Ballast/Driver: -

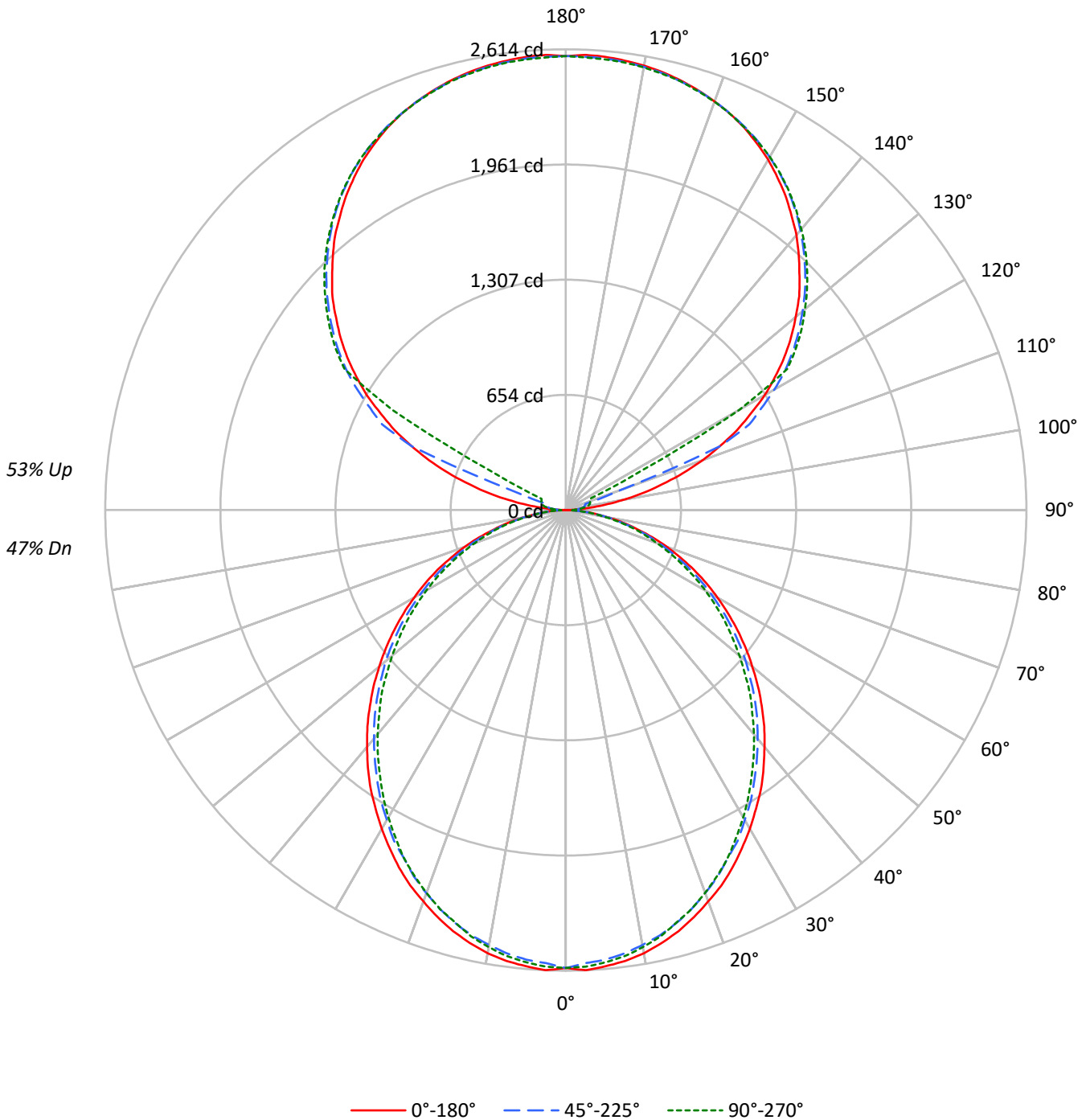
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14167.0 lumens  
Efficiency: N/A  
Efficacy: 112.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 126  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9963  
Total Harmonic Distortion (THDi): 0.065  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P925561  
CATALOG NUMBER: DFN2DIP-SQ3F0-070D080US950-FLLONL

### Luminous Intensity Polar Plot





TEST NUMBER: P925561  
 CATALOG NUMBER: DFN2DIP-SQ3F0-070D080US950-FLLONL

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	106	106	106	106	98	98	98	98	81	81	81	67	67	67	53	53	53	47	47	47	47
1	97	93	89	85	89	85	82	79	71	69	67	59	57	56	47	46	45	39	39	39	39
2	88	81	75	70	81	75	69	65	63	59	55	52	49	46	41	39	38	33	33	33	33
3	81	71	64	58	74	66	59	54	55	50	47	46	42	39	37	34	32	28	28	28	28
4	74	63	55	49	67	58	51	46	49	44	40	41	37	34	33	30	28	24	24	24	24
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	27	24	21	21	21	21
6	62	50	42	36	57	47	39	34	40	34	30	33	29	25	27	24	21	18	18	18	18
7	58	45	37	32	53	42	35	30	36	30	26	30	26	23	24	21	19	16	16	16	16
8	53	41	33	28	49	38	31	27	33	27	23	27	23	20	22	19	17	15	15	15	15
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	15	13	13	13	13
10	46	34	27	22	43	32	26	21	28	22	19	23	19	16	19	16	14	12	12	12	12

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2977	2977	2977
5°	2980	2934	2955
10°	2954	2892	2914
15°	2909	2843	2850
20°	2848	2775	2785
25°	2788	2694	2710
30°	2713	2618	2615
35°	2641	2529	2515
40°	2554	2439	2419
45°	2466	2349	2321
50°	2371	2254	2208
55°	2270	2145	2103
60°	2157	2015	1984
65°	2033	1880	1842
70°	1875	1716	1690
75°	1656	1519	1549
80°	1391	1267	1280
85°	981	840	838

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2466 cd/sqm



TEST NUMBER: P925561

CATALOG NUMBER: DFN2DIP-SQ3F0-070D080US950-FLLONL

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	244.6	1.7
10°-20°	688.1	4.9
20°-30°	1011.3	7.1
30°-40°	1174.5	8.3
40°-50°	1173.1	8.3
50°-60°	1022.9	7.2
60°-70°	756.1	5.3
70°-80°	427.8	3.0
80°-90°	117.5	0.8
90°-100°	84.9	0.6
100°-110°	316.6	2.2
110°-120°	839.7	5.9
120°-130°	1392.7	9.8
130°-140°	1479.4	10.4
140°-150°	1374.9	9.7
150°-160°	1105.4	7.8
160°-170°	712.3	5.0
170°-180°	245.2	1.7
0°-30°	1943.9	13.7
0°-40°	3118.5	22.0
0°-60°	5314.4	37.5
0°-90°	6615.8	46.7
90°-120°	1241.3	8.8
90°-150°	5488.3	38.7
90°-180°	7551.0	53.3
0°-180°	14167.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2598	2598	2598	2598	2598	
5°	2598	2589	2561	2581	2576	247
15°	2474	2459	2426	2436	2424	697
25°	2239	2219	2176	2181	2176	1030
35°	1932	1907	1866	1851	1839	1206
45°	1572	1554	1517	1489	1479	1213
55°	1189	1174	1144	1114	1102	1063
65°	802	787	762	740	727	793
75°	420	415	402	387	392	448
85°	102	100	98	90	88	114
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: P925561

CATALOG NUMBER: DFN2DIP-SQ3F0-070D080US950-FLLONL

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2598.4	2598.4	2598.4	2598.4	2598.4
2.5°	2613.6	2601.1	2573.5	2598.4	2593.6
5°	2598.4	2588.7	2561.1	2581.0	2576.2
7.5°	2581.0	2566.1	2538.5	2558.7	2553.7
10°	2553.7	2536.1	2506.2	2526.1	2518.7
12.5°	2516.0	2501.2	2471.2	2483.6	2478.6
15°	2473.6	2458.7	2426.1	2436.2	2423.7
17.5°	2421.1	2406.3	2373.6	2386.1	2373.6
20°	2363.5	2348.7	2313.7	2321.2	2311.4
22.5°	2306.3	2283.8	2251.2	2251.2	2246.1
25°	2238.8	2218.8	2176.5	2181.2	2176.5
27.5°	2163.7	2146.2	2113.9	2106.4	2093.9
30°	2089.0	2068.7	2031.4	2024.0	2013.9
32.5°	2008.8	1994.1	1954.0	1938.9	1928.8
35°	1931.5	1906.6	1866.5	1851.4	1838.9
37.5°	1844.0	1821.5	1781.4	1763.9	1751.4
40°	1754.1	1734.0	1693.9	1671.7	1661.6
42.5°	1666.6	1646.5	1606.7	1581.5	1566.7
45°	1571.7	1554.3	1516.6	1489.3	1479.2
47.5°	1479.2	1461.7	1421.7	1394.1	1379.3
50°	1381.7	1369.2	1334.2	1299.3	1286.8
52.5°	1286.8	1269.3	1237.0	1209.4	1191.8
55°	1189.4	1174.4	1144.4	1114.5	1102.0
57.5°	1091.9	1079.5	1046.8	1016.9	1006.9
60°	994.4	984.5	949.6	922.0	914.6
62.5°	899.4	882.0	857.1	832.2	822.1
65°	802.2	787.0	762.2	739.6	727.1
67.5°	702.2	689.6	667.2	649.8	639.7
70°	609.7	599.7	577.1	559.6	549.8
72.5°	514.8	504.8	492.3	474.8	467.4
75°	419.7	414.9	402.1	387.3	392.4
77.5°	334.9	324.7	319.7	312.2	304.9
80°	249.9	247.4	242.3	234.9	229.8
82.5°	169.9	169.9	167.5	157.5	157.5
85°	102.4	100.0	97.6	89.9	87.5
87.5°	45.0	40.1	35.0	27.6	24.9
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: P925561

CATALOG NUMBER: DFN2DIP-SQ3F0-070D080US950-FLLONL

**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: P925561  
 CATALOG NUMBER: DFN2DIP-SQ3F0-070D080US950-FLLONL

**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	10.72	11.55	11.70	12.55	13.86	10.27	11.10	11.26	12.10	13.42
	3H	12.37	13.12	13.36	14.12	15.46	11.88	12.63	12.87	13.63	14.97
	4H	12.95	13.66	13.96	14.67	16.02	12.46	13.17	13.47	14.18	15.52
	6H	13.35	14.00	14.37	15.01	16.37	12.85	13.50	13.87	14.51	15.87
	8H	13.45	14.07	14.47	15.10	16.46	12.95	13.57	13.97	14.60	15.95
	12H	13.50	14.08	14.53	15.11	16.49	12.99	13.58	14.02	14.60	15.98
4H	2H	11.17	11.88	12.18	12.89	14.23	10.81	11.52	11.83	12.53	13.88
	3H	13.03	13.62	14.05	14.66	16.02	12.62	13.21	13.64	14.25	15.61
	4H	13.74	14.28	14.77	15.31	16.69	13.31	13.85	14.34	14.88	16.27
	6H	14.25	14.71	15.29	15.76	17.14	13.81	14.28	14.85	15.33	16.71
	8H	14.39	14.83	15.43	15.87	17.27	13.95	14.39	15.00	15.44	16.83
	12H	14.46	14.85	15.52	15.92	17.31	14.01	14.40	15.07	15.47	16.87
8H	4H	13.93	14.36	14.97	15.41	16.80	13.55	13.98	14.59	15.03	16.42
	6H	14.55	14.91	15.62	16.00	17.39	14.17	14.52	15.23	15.61	17.01
	8H	14.77	15.08	15.84	16.16	17.57	14.37	14.69	15.45	15.76	17.17
	12H	14.89	15.17	15.97	16.24	17.69	14.48	14.76	15.56	15.83	17.28
12H	4H	13.91	14.30	14.97	15.36	16.76	13.54	13.93	14.60	14.99	16.39
	6H	14.58	14.89	15.65	15.97	17.38	14.21	14.52	15.28	15.59	17.00
	8H	14.81	15.09	15.89	16.16	17.61	14.43	14.71	15.51	15.78	17.23