

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: P914696

Luminaire Tested: DFN2DIP-SQ3F0-080D110US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914696
REPORT IS A COMBINATION OF REPORTS P899995 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-080D110US927-FLLFLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

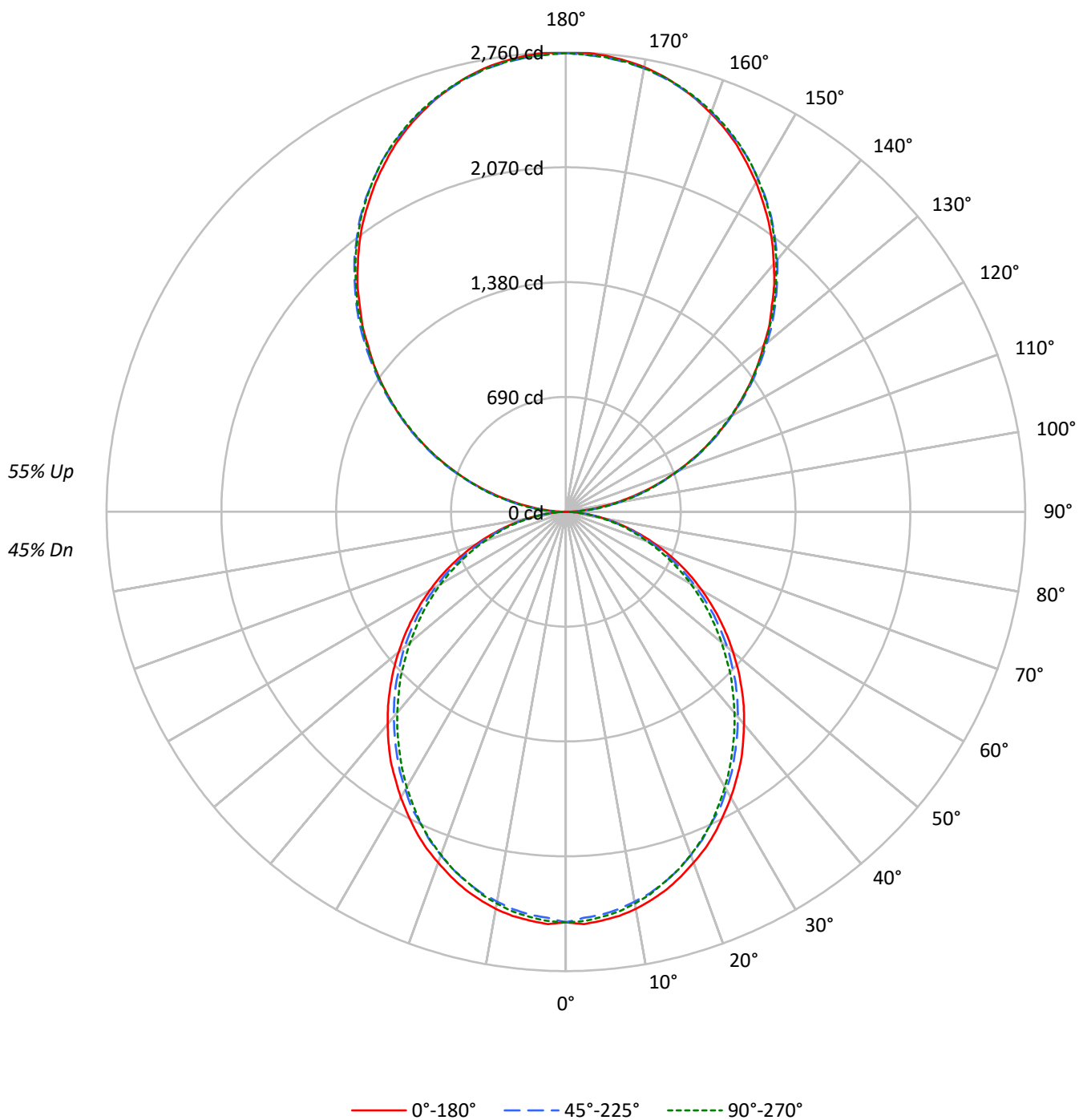
Lumens per Lamp: N/A
Luminaire Lumens: 13986.0 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 162.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51
1	97	92	88	85	88	85	81	78	71	68	66	57	56	54	45	44	43
2	88	81	75	69	80	74	69	64	62	58	55	50	48	45	40	38	37
3	80	71	64	58	73	65	59	54	55	50	46	45	41	38	35	33	31
4	73	63	55	49	67	58	51	46	48	43	39	40	36	33	32	29	27
5	67	56	48	42	61	51	44	39	43	38	34	36	32	28	29	26	23
6	62	50	42	36	57	46	39	34	39	33	29	32	28	25	26	23	21
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	24	21	18
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	16
9	49	37	30	25	45	35	28	23	29	24	21	25	21	18	20	17	15
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	19	16	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2825	2825	2825
5°	2828	2784	2804
10°	2803	2745	2765
15°	2761	2698	2705
20°	2703	2633	2643
25°	2646	2556	2572
30°	2574	2485	2482
35°	2507	2400	2387
40°	2424	2315	2296
45°	2341	2229	2203
50°	2250	2139	2095
55°	2155	2036	1996
60°	2047	1912	1883
65°	1929	1784	1749
70°	1779	1628	1604
75°	1571	1442	1469
80°	1321	1203	1214
85°	930	797	795

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2771 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.1	1.7
10°-20°	653.0	4.7
20°-30°	959.7	6.9
30°-40°	1114.6	8.0
40°-50°	1113.2	8.0
50°-60°	970.7	6.9
60°-70°	717.6	5.1
70°-80°	406.0	2.9
80°-90°	115.0	0.8
90°-100°	170.5	1.2
100°-110°	541.8	3.9
110°-120°	927.3	6.6
120°-130°	1219.5	8.7
130°-140°	1368.8	9.8
140°-150°	1342.3	9.6
150°-160°	1126.0	8.1
160°-170°	746.7	5.3
170°-180°	261.0	1.9
0°-30°	1844.8	13.2
0°-40°	2959.4	21.2
0°-60°	5043.4	36.1
0°-90°	6281.9	44.9
90°-120°	1639.7	11.7
90°-150°	5570.3	39.8
90°-180°	7704.0	55.1
0°-180°	13986.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2466	2466	2466	2466	2466	
5°	2466	2457	2430	2449	2445	234
15°	2348	2333	2302	2312	2300	661
25°	2125	2106	2066	2070	2066	978
35°	1833	1809	1771	1757	1745	1145
45°	1492	1475	1439	1413	1404	1151
55°	1129	1114	1086	1058	1046	1009
65°	761	747	723	702	690	753
75°	398	394	382	368	372	425
85°	97	95	93	85	83	108
90°	2	30	81	76	79	14
95°	121	145	149	149	145	135
105°	500	507	512	516	516	528
115°	931	944	940	937	931	920
125°	1353	1374	1368	1360	1358	1209
135°	1751	1776	1781	1779	1772	1353
145°	2125	2142	2155	2158	2149	1328
155°	2430	2437	2444	2456	2448	1119
165°	2644	2641	2641	2658	2646	746
175°	2751	2744	2739	2756	2742	261
180°	2756	2756	2756	2756	2756	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2465.9	2465.9	2465.9	2465.9	2465.9
2.5°	2480.2	2468.4	2442.3	2465.9	2461.4
5°	2465.9	2456.6	2430.5	2449.3	2444.8
7.5°	2449.3	2435.2	2409.1	2428.2	2423.4
10°	2423.4	2406.8	2378.4	2397.2	2390.2
12.5°	2387.7	2373.6	2345.2	2357.0	2352.2
15°	2347.5	2333.4	2302.4	2312.0	2300.2
17.5°	2297.6	2283.5	2252.6	2264.4	2252.6
20°	2243.1	2229.0	2195.8	2202.8	2193.5
22.5°	2188.7	2167.3	2136.4	2136.4	2131.6
25°	2124.6	2105.7	2065.5	2070.0	2065.5
27.5°	2053.3	2036.8	2006.0	1999.0	1987.2
30°	1982.4	1963.3	1927.9	1920.8	1911.2
32.5°	1906.5	1892.4	1854.3	1840.0	1830.5
35°	1832.9	1809.3	1771.3	1757.0	1745.2
37.5°	1749.9	1728.5	1690.6	1674.0	1662.2
40°	1664.7	1645.5	1607.6	1586.4	1576.8
42.5°	1581.7	1562.5	1524.8	1500.9	1486.8
45°	1491.6	1475.0	1439.2	1413.3	1403.8
47.5°	1403.8	1387.2	1349.2	1323.0	1308.9
50°	1311.2	1299.4	1266.1	1233.0	1221.1
52.5°	1221.1	1204.5	1173.9	1147.7	1131.1
55°	1128.8	1114.4	1086.1	1057.6	1045.8
57.5°	1036.3	1024.4	993.5	965.0	955.4
60°	943.6	934.4	901.1	875.0	867.9
62.5°	853.6	837.0	813.3	789.7	780.1
65°	761.3	746.9	723.3	701.9	690.1
67.5°	666.4	654.3	633.2	616.6	607.0
70°	578.6	569.0	547.7	531.1	521.7
72.5°	488.5	479.0	467.1	450.6	443.5
75°	398.2	393.7	381.7	367.6	372.3
77.5°	317.7	308.2	303.4	296.4	289.3
80°	237.3	234.7	230.0	222.9	218.1
82.5°	161.3	161.3	159.0	149.4	149.4
85°	97.1	94.8	92.6	85.3	83.0
87.5°	42.8	38.0	33.2	26.1	23.7
90°	2.5	29.9	81.4	76.4	78.9
92.5°	51.5	69.8	72.2	74.8	74.8
95°	121.3	144.6	148.7	148.7	144.6
97.5°	201.9	223.5	232.7	232.7	232.7
100°	294.9	314.0	320.7	320.7	318.2
102.5°	393.0	407.1	416.3	418.7	416.3
105°	500.2	506.8	511.8	515.9	515.9
107.5°	606.5	616.5	616.5	618.1	606.5
110°	709.6	722.9	722.9	722.9	716.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	820.9	835.0	832.5	825.8	820.9
115°	930.6	943.8	939.7	937.2	930.6
117.5°	1039.4	1057.6	1046.0	1039.4	1032.8
120°	1149.1	1167.4	1149.1	1149.1	1141.6
122.5°	1248.8	1272.0	1260.4	1253.7	1248.8
125°	1353.4	1374.2	1367.5	1360.1	1357.6
127.5°	1455.6	1481.4	1472.3	1462.3	1455.6
130°	1551.2	1581.1	1576.9	1571.9	1562.8
132.5°	1658.4	1681.6	1683.3	1671.7	1665.0
135°	1750.6	1776.3	1781.3	1778.8	1772.2
137.5°	1853.6	1874.4	1878.5	1876.8	1866.9
140°	1944.2	1964.9	1976.6	1976.6	1967.5
142.5°	2037.3	2058.0	2064.7	2067.1	2058.0
145°	2125.3	2141.9	2155.2	2157.7	2148.6
147.5°	2204.2	2225.0	2235.0	2239.1	2230.0
150°	2285.7	2299.8	2308.9	2316.4	2308.9
152.5°	2357.9	2372.0	2383.7	2392.9	2383.7
155°	2430.3	2436.8	2444.4	2456.0	2448.5
157.5°	2492.5	2497.5	2501.6	2518.3	2506.6
160°	2548.2	2553.2	2555.7	2569.8	2559.9
162.5°	2599.7	2599.7	2602.2	2618.0	2606.4
165°	2643.7	2641.2	2641.2	2657.8	2646.2
167.5°	2683.6	2676.1	2676.1	2692.8	2681.1
170°	2713.5	2706.9	2704.4	2721.0	2706.9
172.5°	2734.3	2727.6	2725.2	2741.8	2727.6
175°	2750.9	2744.3	2739.3	2755.9	2741.8
177.5°	2760.0	2753.4	2748.4	2762.6	2748.4
180°	2755.9	2755.9	2755.9	2755.9	2755.9

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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	10.36	11.17	11.36	12.18	13.53	9.91	10.73	10.91	11.74	13.08
	3H	12.01	12.74	13.02	13.76	15.12	11.52	12.25	12.53	13.27	14.63
	4H	12.59	13.28	13.61	14.31	15.68	12.10	12.79	13.12	13.81	15.18
	6H	12.98	13.62	14.02	14.65	16.03	12.48	13.12	13.52	14.15	15.53
	8H	13.09	13.70	14.12	14.74	16.12	12.58	13.19	13.62	14.24	15.62
	12H	13.13	13.71	14.18	14.75	16.15	12.62	13.20	13.67	14.24	15.64
4H	2H	10.81	11.50	11.84	12.52	13.89	10.45	11.15	11.48	12.17	13.54
	3H	12.66	13.24	13.70	14.29	15.68	12.26	12.84	13.29	13.89	15.27
	4H	13.37	13.90	14.42	14.95	16.35	12.95	13.48	13.99	14.52	15.93
	6H	13.88	14.34	14.94	15.40	16.80	13.45	13.91	14.50	14.97	16.37
	8H	14.03	14.45	15.08	15.51	16.93	13.59	14.02	14.64	15.07	16.49
	12H	14.10	14.48	15.17	15.55	16.98	13.65	14.03	14.72	15.10	16.53
8H	4H	13.56	13.99	14.62	15.05	16.46	13.18	13.61	14.24	14.67	16.09
	6H	14.18	14.54	15.26	15.64	17.05	13.80	14.15	14.88	15.25	16.67
	8H	14.40	14.71	15.49	15.80	17.23	14.01	14.32	15.09	15.40	16.84
	12H	14.53	14.80	15.62	15.88	17.35	14.12	14.39	15.21	15.47	16.94
12H	4H	13.54	13.93	14.62	15.00	16.42	13.18	13.56	14.25	14.63	16.06
	6H	14.21	14.52	15.30	15.61	17.04	13.84	14.15	14.93	15.23	16.67
	8H	14.45	14.72	15.54	15.80	17.27	14.07	14.34	15.16	15.42	16.89

END OF REPORT