

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: P925430

Luminaire Tested: DFN2DIP-SQ2F0-080D070US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925430
REPORT IS A COMBINATION OF REPORTS P899830 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-080D070US950-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

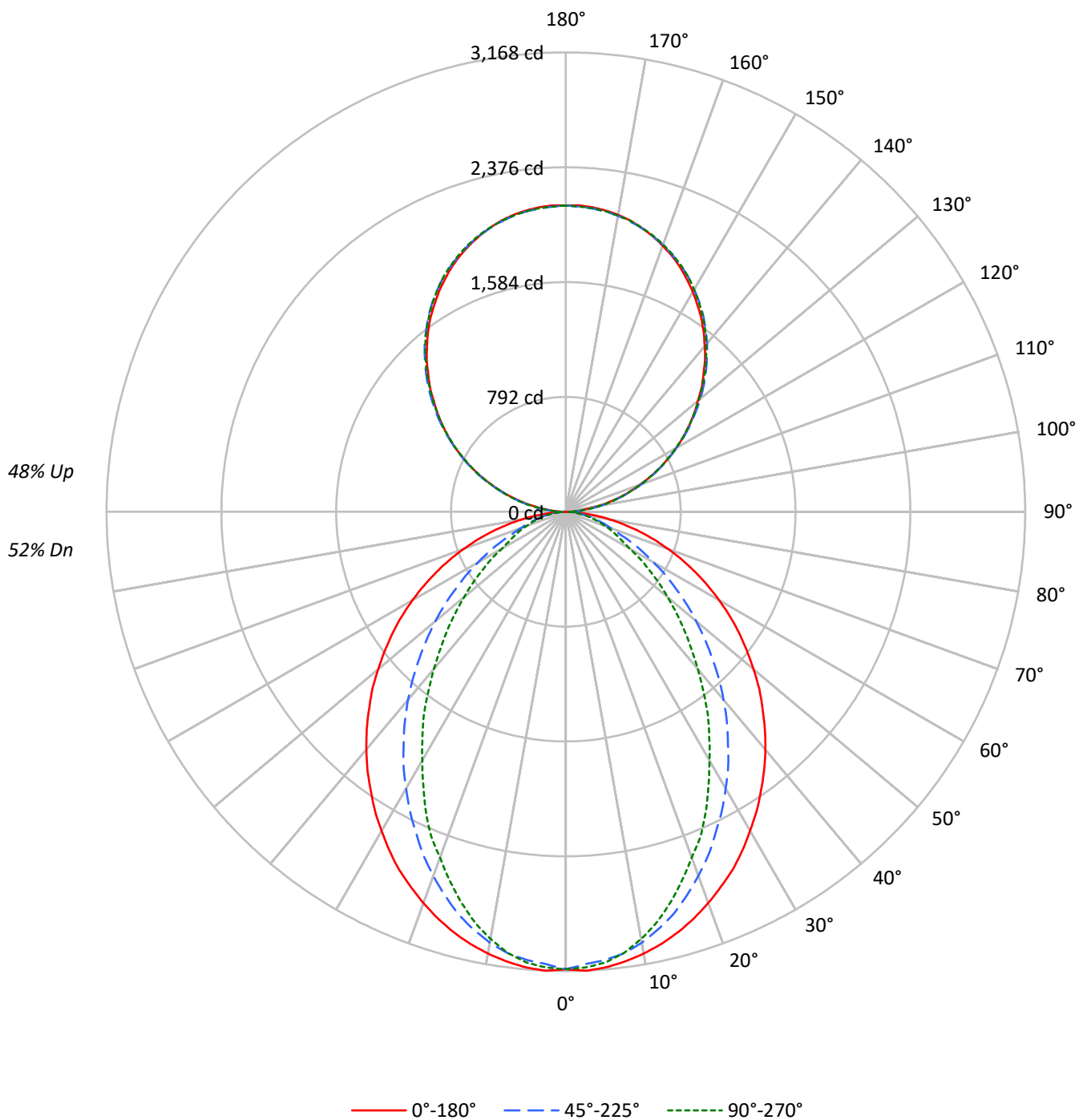
Lumens per Lamp: N/A
Luminaire Lumens: 12397.3 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 133.4
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

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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58
1	99	95	91	88	91	88	85	82	75	73	71	63	62	60	52	51	50
2	90	83	77	72	83	77	72	68	66	63	59	56	53	51	47	45	43
3	83	74	67	61	76	69	62	57	59	54	50	50	47	44	42	39	37
4	76	66	58	52	70	61	54	49	53	48	43	45	41	38	38	35	33
5	70	59	51	45	65	55	48	43	47	42	38	41	36	33	34	31	29
6	65	53	45	39	60	49	42	37	43	37	33	37	33	29	31	28	25
7	60	48	40	35	55	45	38	33	39	34	30	34	29	26	29	25	23
8	56	44	36	31	52	41	34	29	36	30	26	31	27	23	26	23	21
9	52	40	33	28	48	38	31	26	33	28	24	29	24	21	24	21	19
10	49	37	30	25	45	35	28	24	30	25	22	26	22	19	23	20	17

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

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.6	2.4
10°-20°	811.5	6.5
20°-30°	1139.4	9.2
30°-40°	1242.0	10.0
40°-50°	1141.5	9.2
50°-60°	896.5	7.2
60°-70°	583.5	4.7
70°-80°	300.4	2.4
80°-90°	82.7	0.7
90°-100°	130.7	1.1
100°-110°	415.3	3.3
110°-120°	710.6	5.7
120°-130°	934.6	7.5
130°-140°	1049.0	8.5
140°-150°	1028.7	8.3
150°-160°	862.9	7.0
160°-170°	572.3	4.6
170°-180°	200.0	1.6
0°-30°	2246.6	18.1
0°-40°	3488.6	28.1
0°-60°	5526.6	44.6
0°-90°	6493.2	52.4
90°-120°	1256.6	10.1
90°-150°	4268.9	34.4
90°-180°	5904.0	47.6
0°-180°	12397.3	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	23	62	59	60	12
95°	93	111	114	114	111	103
105°	383	388	392	395	395	405
115°	713	723	720	718	713	705
125°	1037	1053	1048	1042	1040	927
135°	1342	1361	1365	1363	1358	1037
145°	1629	1642	1652	1654	1647	1018
155°	1862	1868	1873	1882	1876	857
165°	2026	2024	2024	2037	2028	572
175°	2108	2103	2099	2112	2101	200
180°	2112	2112	2112	2112	2112	



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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°	1.9	22.9	62.4	58.6	60.5
92.5°	39.5	53.5	55.4	57.3	57.3
95°	92.9	110.8	114.0	114.0	110.8
97.5°	154.7	171.2	178.3	178.3	178.3
100°	226.0	240.7	245.8	245.8	243.8
102.5°	301.2	312.0	319.0	320.9	319.0
105°	383.3	388.4	392.2	395.4	395.4
107.5°	464.8	472.4	472.4	473.8	464.8
110°	543.8	554.0	554.0	554.0	548.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	629.1	639.9	638.0	632.9	629.1
115°	713.1	723.3	720.2	718.3	713.1
117.5°	796.5	810.5	801.6	796.5	791.4
120°	880.5	894.6	880.5	880.5	874.8
122.5°	957.0	974.8	965.9	960.8	957.0
125°	1037.2	1053.1	1048.1	1042.3	1040.4
127.5°	1115.5	1135.3	1128.3	1120.7	1115.5
130°	1188.8	1211.7	1208.5	1204.7	1197.7
132.5°	1270.9	1288.8	1290.0	1281.1	1276.0
135°	1341.6	1361.3	1365.2	1363.2	1358.1
137.5°	1420.5	1436.4	1439.6	1438.3	1430.7
140°	1490.0	1505.9	1514.8	1514.8	1507.8
142.5°	1561.2	1577.2	1582.2	1584.1	1577.2
145°	1628.8	1641.5	1651.7	1653.6	1646.6
147.5°	1689.2	1705.2	1712.8	1716.0	1709.0
150°	1751.6	1762.4	1769.5	1775.2	1769.5
152.5°	1807.0	1817.8	1826.7	1833.8	1826.7
155°	1862.4	1867.5	1873.3	1882.1	1876.4
157.5°	1910.2	1914.0	1917.2	1929.9	1921.0
160°	1952.8	1956.7	1958.6	1969.3	1961.7
162.5°	1992.3	1992.3	1994.2	2006.3	1997.4
165°	2026.0	2024.1	2024.1	2036.9	2027.9
167.5°	2056.6	2050.9	2050.9	2063.6	2054.7
170°	2079.5	2074.5	2072.6	2085.3	2074.5
172.5°	2095.5	2090.3	2088.4	2101.2	2090.3
175°	2108.1	2103.1	2099.3	2112.0	2101.2
177.5°	2115.2	2110.1	2106.2	2117.1	2106.2
180°	2112.0	2112.0	2112.0	2112.0	2112.0

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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	13.98	14.83	14.92	15.78	17.02	9.94	10.79	10.88	11.74	12.98
	3H	15.64	16.40	16.59	17.36	18.63	11.11	11.87	12.07	12.84	14.10
	4H	16.24	16.95	17.20	17.92	19.19	11.55	12.27	12.52	13.24	14.51
	6H	16.64	17.30	17.62	18.28	19.56	11.86	12.52	12.84	13.49	14.78
	8H	16.76	17.39	17.75	18.38	19.66	11.94	12.57	12.92	13.56	14.84
	12H	16.81	17.41	17.81	18.40	19.70	11.97	12.57	12.97	13.56	14.86
4H	2H	13.99	14.71	14.97	15.68	16.95	10.53	11.25	11.50	12.21	13.49
	3H	15.80	16.40	16.79	17.40	18.68	11.86	12.45	12.84	13.45	14.74
	4H	16.48	17.03	17.47	18.02	19.33	12.39	12.94	13.38	13.93	15.24
	6H	16.98	17.45	17.98	18.46	19.77	12.79	13.26	13.80	14.28	15.58
	8H	17.14	17.58	18.15	18.59	19.91	12.91	13.35	13.92	14.36	15.68
	12H	17.23	17.62	18.25	18.65	19.97	12.97	13.36	13.99	14.38	15.71
8H	4H	16.45	16.88	17.45	17.89	19.21	12.66	13.10	13.67	14.11	15.43
	6H	16.99	17.35	18.02	18.40	19.72	13.16	13.52	14.19	14.57	15.89
	8H	17.19	17.51	18.23	18.55	19.89	13.33	13.65	14.37	14.69	16.03
	12H	17.32	17.60	18.36	18.63	20.01	13.44	13.72	14.48	14.75	16.13
12H	4H	16.40	16.79	17.42	17.82	19.14	12.66	13.06	13.69	14.08	15.41
	6H	16.96	17.28	18.00	18.32	19.66	13.20	13.52	14.24	14.55	15.89
	8H	17.17	17.45	18.21	18.48	19.87	13.39	13.67	14.44	14.70	16.09