

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: P909122

Luminaire Tested: DFN2DIP-SQ3F0-050D080US840-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P909122
REPORT IS A COMBINATION OF REPORTS P899936 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-050D080US840-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

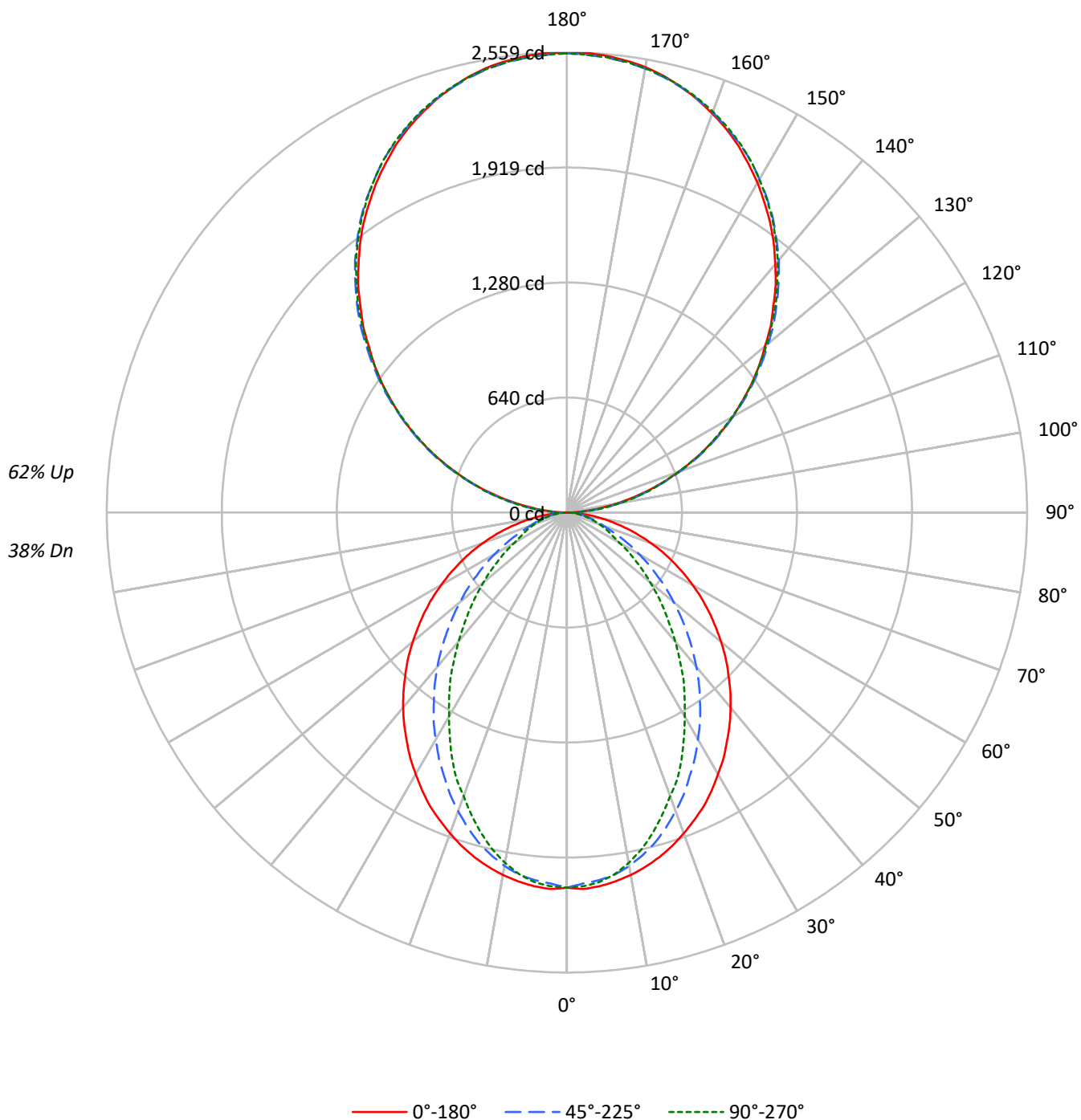
Lumens per Lamp: N/A
Luminaire Lumens: 11441.8 lumens
Efficiency: N/A
Efficacy: 111.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 102.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P909122

CATALOG NUMBER: DFN2DIP-SQ3F0-050D080US840-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P909122

CATALOG NUMBER: DFN2DIP-SQ3F0-050D080US840-RLFL

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	104	104	104	104	95	95	95	95	76	76	76	60	60	60	45	45	45
1	95	91	88	84	86	83	80	77	67	65	63	53	52	50	40	39	38
2	87	80	74	69	79	73	68	64	59	56	53	47	45	43	36	34	33
3	80	71	64	58	72	64	58	54	53	48	45	42	39	37	32	30	28
4	73	63	55	49	66	57	51	46	47	42	39	38	34	32	29	27	25
5	67	56	48	42	61	51	44	39	42	37	33	34	30	28	26	24	22
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	17
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	19	16	14
10	46	35	28	23	42	32	26	21	27	22	19	22	18	16	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2391	2391	2391
5°	2393	2352	2368
10°	2368	2304	2290
15°	2334	2226	2170
20°	2290	2120	2023
25°	2244	2001	1881
30°	2183	1879	1702
35°	2123	1748	1544
40°	2062	1612	1364
45°	1992	1463	1200
50°	1918	1312	1040
55°	1842	1150	887
60°	1753	982	729
65°	1651	811	656
70°	1527	651	592
75°	1371	571	537
80°	1146	474	463
85°	778	309	344

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2571 cd/sqm

TEST NUMBER: P909122

CATALOG NUMBER: DFN2DIP-SQ3F0-050D080US840-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.6	1.7
10°-20°	536.9	4.7
20°-30°	753.8	6.6
30°-40°	821.7	7.2
40°-50°	755.2	6.6
50°-60°	593.1	5.2
60°-70°	386.1	3.4
70°-80°	198.7	1.7
80°-90°	58.0	0.5
90°-100°	158.1	1.4
100°-110°	502.4	4.4
110°-120°	859.7	7.5
120°-130°	1130.6	9.9
130°-140°	1269.1	11.1
140°-150°	1244.5	10.9
150°-160°	1043.9	9.1
160°-170°	692.3	6.1
170°-180°	242.0	2.1
0°-30°	1486.3	13.0
0°-40°	2308.0	20.2
0°-60°	3656.4	32.0
0°-90°	4299.2	37.6
90°-120°	1520.1	13.3
90°-150°	5164.3	45.1
90°-180°	7143.0	62.4
0°-180°	11441.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2087	2087	2087	2087	2087	
5°	2087	2078	2053	2070	2064	198
15°	1985	1964	1900	1864	1845	559
25°	1802	1741	1617	1539	1511	829
35°	1552	1456	1290	1171	1129	972
45°	1269	1143	944	810	765	980
55°	965	818	614	500	465	862
65°	652	499	329	264	259	646
75°	348	215	151	138	136	368
85°	81	42	36	36	36	93
90°	2	28	76	71	73	11
95°	112	134	138	138	134	125
105°	464	470	474	478	478	489
115°	863	875	871	869	863	853
125°	1255	1274	1268	1261	1259	1121
135°	1623	1647	1652	1649	1643	1254
145°	1970	1986	1998	2000	1992	1231
155°	2253	2259	2266	2277	2270	1037
165°	2451	2449	2449	2464	2453	691
175°	2550	2544	2540	2555	2542	242
180°	2555	2555	2555	2555	2555	

TEST NUMBER: P909122

CATALOG NUMBER: DFN2DIP-SQ3F0-050D080US840-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2086.9	2086.9	2086.9	2086.9	2086.9
2.5°	2096.3	2086.9	2066.1	2085.1	2081.2
5°	2086.9	2077.5	2052.9	2069.8	2064.3
7.5°	2069.8	2058.6	2032.2	2039.6	2030.1
10°	2047.2	2034.0	1996.3	1990.5	1979.2
12.5°	2018.9	2002.0	1950.9	1939.6	1918.7
15°	1984.9	1964.1	1900.0	1864.1	1845.2
17.5°	1945.2	1915.0	1835.6	1794.1	1763.8
20°	1900.0	1862.1	1767.7	1720.6	1678.9
22.5°	1850.9	1807.4	1697.8	1633.7	1605.4
25°	1801.7	1741.2	1616.6	1539.2	1510.8
27.5°	1743.2	1678.9	1541.1	1452.3	1408.9
30°	1680.9	1609.0	1457.9	1361.7	1310.6
32.5°	1620.4	1533.5	1378.8	1265.4	1218.1
35°	1552.5	1456.1	1290.0	1170.9	1129.3
37.5°	1486.3	1382.4	1206.9	1076.4	1029.4
40°	1416.4	1303.2	1119.8	985.8	936.8
42.5°	1344.7	1223.9	1033.1	893.2	846.2
45°	1269.2	1142.6	944.3	810.1	764.8
47.5°	1197.4	1063.4	859.4	725.2	683.7
50°	1118.1	984.0	776.3	645.8	606.3
52.5°	1040.6	898.9	696.9	572.3	536.4
55°	965.0	817.7	613.7	500.5	464.6
57.5°	887.7	736.6	540.2	434.4	404.1
60°	808.3	657.2	462.6	366.5	336.2
62.5°	730.9	579.9	396.6	306.0	290.9
65°	651.6	498.6	328.6	264.5	258.7
67.5°	576.0	423.0	264.5	232.3	226.6
70°	496.8	349.4	219.0	200.2	192.6
72.5°	421.2	281.3	183.2	168.1	164.3
75°	347.5	215.2	151.1	137.8	136.0
77.5°	273.9	152.9	119.1	111.4	107.6
80°	205.8	109.6	90.6	83.1	83.1
82.5°	143.5	73.7	62.3	58.5	58.5
85°	81.2	41.5	35.9	35.9	35.9
87.5°	30.3	15.0	15.0	13.2	13.2
90°	2.3	27.8	75.5	70.9	73.2
92.5°	47.8	64.7	67.1	69.3	69.3
95°	112.5	134.0	137.8	137.8	134.0
97.5°	187.2	207.2	215.7	215.7	215.7
100°	273.5	291.1	297.3	297.3	295.0
102.5°	364.4	377.5	385.9	388.2	385.9
105°	463.7	469.9	474.5	478.4	478.4
107.5°	562.3	571.6	571.6	573.1	562.3
110°	657.8	670.1	670.1	670.1	664.0

TEST NUMBER: P909122

CATALOG NUMBER: DFN2DIP-SQ3F0-050D080US840-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	761.0	774.2	771.8	765.7	761.0
115°	862.7	875.0	871.2	868.9	862.7
117.5°	963.6	980.6	969.8	963.6	957.5
120°	1065.3	1082.3	1065.3	1065.3	1058.3
122.5°	1157.7	1179.3	1168.5	1162.4	1157.7
125°	1254.8	1274.0	1267.9	1260.9	1258.7
127.5°	1349.6	1373.4	1364.9	1355.7	1349.6
130°	1438.1	1465.8	1462.0	1457.4	1449.0
132.5°	1537.5	1559.0	1560.6	1549.8	1543.7
135°	1623.0	1646.9	1651.5	1649.2	1643.1
137.5°	1718.5	1737.8	1741.6	1740.1	1730.8
140°	1802.5	1821.7	1832.5	1832.5	1824.0
142.5°	1888.8	1908.0	1914.2	1916.5	1908.0
145°	1970.4	1985.8	1998.1	2000.4	1992.0
147.5°	2043.6	2062.9	2072.0	2076.0	2067.5
150°	2119.1	2132.1	2140.6	2147.6	2140.6
152.5°	2186.1	2199.2	2210.0	2218.5	2210.0
155°	2253.1	2259.3	2266.2	2276.9	2270.1
157.5°	2310.9	2315.5	2319.4	2334.7	2324.0
160°	2362.5	2367.1	2369.4	2382.5	2373.3
162.5°	2410.2	2410.2	2412.6	2427.2	2416.4
165°	2451.0	2448.7	2448.7	2464.2	2453.4
167.5°	2488.0	2481.1	2481.1	2496.5	2485.7
170°	2515.8	2509.6	2507.3	2522.7	2509.6
172.5°	2535.1	2528.9	2526.6	2541.9	2528.9
175°	2550.4	2544.3	2539.6	2555.1	2541.9
177.5°	2558.9	2552.7	2548.1	2561.2	2548.1
180°	2555.1	2555.1	2555.1	2555.1	2555.1

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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	8.86	9.59	9.92	10.66	12.10	4.82	5.56	5.88	6.62	8.06
	3H	10.52	11.18	11.59	12.25	13.71	5.99	6.65	7.06	7.72	9.18
	4H	11.12	11.75	12.21	12.82	14.29	6.43	7.06	7.52	8.13	9.60
	6H	11.54	12.11	12.63	13.19	14.66	6.74	7.32	7.84	8.39	9.87
	8H	11.66	12.21	12.75	13.30	14.77	6.83	7.38	7.92	8.47	9.94
	12H	11.72	12.23	12.82	13.32	14.81	6.87	7.39	7.97	8.47	9.96
4H	2H	8.86	9.49	9.95	10.56	12.02	5.40	6.02	6.49	7.10	8.56
	3H	10.68	11.20	11.77	12.30	13.77	6.73	7.25	7.83	8.35	9.83
	4H	11.36	11.84	12.46	12.93	14.43	7.27	7.75	8.37	8.84	10.34
	6H	11.87	12.28	12.98	13.39	14.88	7.68	8.09	8.79	9.20	10.69
	8H	12.04	12.42	13.15	13.52	15.03	7.80	8.18	8.91	9.29	10.80
	12H	12.13	12.47	13.25	13.59	15.10	7.86	8.20	8.98	9.32	10.83
8H	4H	11.32	11.70	12.43	12.81	14.32	7.54	7.92	8.65	9.03	10.54
	6H	11.88	12.19	13.01	13.34	14.84	8.05	8.36	9.18	9.51	11.01
	8H	12.09	12.37	13.23	13.49	15.02	8.23	8.51	9.37	9.64	11.16
	12H	12.22	12.46	13.36	13.59	15.15	8.34	8.59	9.48	9.71	11.27
12H	4H	11.27	11.61	12.39	12.73	14.24	7.54	7.89	8.67	9.00	10.52
	6H	11.85	12.13	12.99	13.26	14.78	8.10	8.37	9.23	9.50	11.02
	8H	12.07	12.31	13.21	13.43	14.99	8.30	8.54	9.44	9.66	11.22

END OF REPORT