

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: P909222

Luminaire Tested: DFN2DIP-SQ3F0-080D060US840-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P909222
REPORT IS A COMBINATION OF REPORTS P899906 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-080D060US840-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

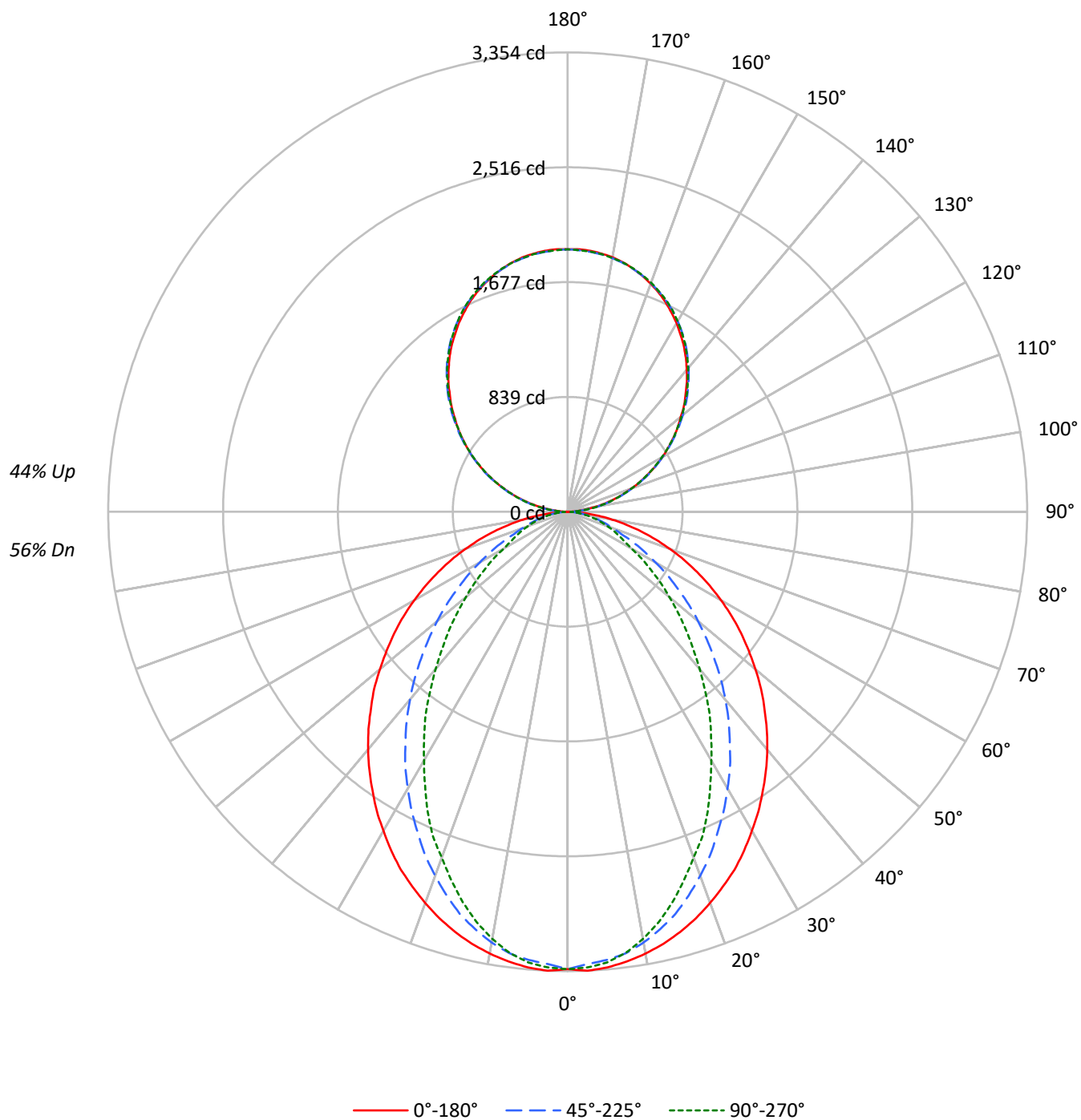
Lumens per Lamp: N/A
Luminaire Lumens: 12229.5 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 121.3
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

TEST NUMBER: P909222

CATALOG NUMBER: DFN2DIP-SQ3F0-080D060US840-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P909222

CATALOG NUMBER: DFN2DIP-SQ3F0-080D060US840-RLLFLL

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	109	109	109	109		101	101	101	101		87	87	87		74	74	74		62	62	62
1	100	96	92	88		93	89	86	83		77	75	72		66	64	63		55	54	53
2	91	84	78	73		85	79	73	69		68	64	61		58	56	53		49	47	46
3	84	74	67	62		78	70	63	58		61	56	52		52	49	46		44	42	40
4	77	66	59	53		71	62	55	50		54	49	45		47	43	40		40	37	35
5	71	59	51	46		66	56	49	43		49	43	39		42	38	35		36	33	30
6	65	53	46	40		61	50	43	38		44	38	34		38	34	31		33	30	27
7	61	48	41	35		56	46	39	34		40	35	30		35	31	27		30	27	24
8	56	44	37	31		52	42	35	30		37	31	27		32	28	25		28	25	22
9	53	41	33	28		49	38	32	27		34	28	25		30	25	22		26	23	20
10	49	37	30	25		46	35	29	24		31	26	22		28	23	20		24	21	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3826	3826	3826
5°	3830	3763	3788
10°	3789	3686	3663
15°	3735	3562	3472
20°	3663	3392	3237
25°	3590	3201	3010
30°	3493	3006	2723
35°	3397	2797	2471
40°	3299	2580	2182
45°	3186	2340	1920
50°	3069	2099	1665
55°	2947	1840	1419
60°	2805	1571	1167
65°	2642	1297	1049
70°	2444	1042	947
75°	2194	913	859
80°	1833	758	741
85°	1244	494	550

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3186 cd/sqm

TEST NUMBER: P909222

CATALOG NUMBER: DFN2DIP-SQ3F0-080D060US840-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	312.9	2.6
10°-20°	859.1	7.0
20°-30°	1206.1	9.9
30°-40°	1314.7	10.8
40°-50°	1208.4	9.9
50°-60°	949.0	7.8
60°-70°	617.7	5.1
70°-80°	318.0	2.6
80°-90°	86.6	0.7
90°-100°	118.6	1.0
100°-110°	376.8	3.1
110°-120°	644.8	5.3
120°-130°	848.0	6.9
130°-140°	951.8	7.8
140°-150°	933.4	7.6
150°-160°	783.0	6.4
160°-170°	519.2	4.2
170°-180°	181.5	1.5
0°-30°	2378.1	19.4
0°-40°	3692.9	30.2
0°-60°	5850.2	47.8
0°-90°	6872.5	56.2
90°-120°	1140.1	9.3
90°-150°	3873.3	31.7
90°-180°	5357.0	43.8
0°-180°	12229.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3339	3339	3339	3339	3339	
5°	3339	3324	3284	3312	3303	317
15°	3176	3142	3040	2982	2952	895
25°	2883	2786	2587	2463	2417	1326
35°	2484	2330	2064	1874	1807	1555
45°	2031	1828	1511	1296	1224	1568
55°	1544	1308	982	801	744	1380
65°	1043	798	526	423	414	1034
75°	556	344	242	221	218	588
85°	130	66	57	57	57	149
90°	2	21	57	53	55	12
95°	84	100	103	103	100	94
105°	348	352	356	359	359	367
115°	647	656	653	652	647	640
125°	941	956	951	946	944	841
135°	1217	1235	1239	1237	1232	941
145°	1478	1489	1499	1500	1494	923
155°	1690	1694	1700	1708	1702	778
165°	1838	1836	1836	1848	1840	519
175°	1913	1908	1905	1916	1906	182
180°	1916	1916	1916	1916	1916	

TEST NUMBER: P909222

CATALOG NUMBER: DFN2DIP-SQ3F0-080D060US840-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3339.0	3339.0	3339.0	3339.0	3339.0
2.5°	3354.1	3339.0	3305.7	3336.1	3330.0
5°	3339.0	3324.0	3284.5	3311.8	3302.8
7.5°	3311.8	3293.8	3251.5	3263.4	3248.2
10°	3275.5	3254.4	3194.1	3184.8	3166.8
12.5°	3230.4	3203.1	3121.3	3103.3	3070.0
15°	3175.8	3142.5	3039.9	2982.5	2952.3
17.5°	3112.3	3063.9	2937.0	2870.6	2822.2
20°	3039.9	2979.3	2828.3	2753.0	2686.2
22.5°	2961.3	2891.7	2716.4	2613.8	2568.6
25°	2882.8	2786.0	2586.6	2462.9	2417.3
27.5°	2789.1	2686.2	2465.7	2323.7	2254.1
30°	2689.5	2574.3	2332.7	2178.8	2097.0
32.5°	2592.6	2453.6	2206.1	2024.6	1948.9
35°	2484.0	2329.8	2064.0	1873.6	1806.9
37.5°	2378.1	2211.8	1931.0	1722.2	1646.9
40°	2266.3	2085.2	1791.8	1577.3	1498.7
42.5°	2151.5	1958.2	1652.9	1429.3	1353.8
45°	2030.6	1828.1	1511.0	1296.2	1223.8
47.5°	1915.9	1701.4	1375.0	1160.2	1093.9
50°	1788.9	1574.5	1242.0	1033.3	970.1
52.5°	1664.9	1438.1	1115.0	915.6	858.3
55°	1544.0	1308.4	982.0	800.8	743.5
57.5°	1420.3	1178.5	864.3	695.1	646.6
60°	1293.2	1051.6	740.2	586.3	538.0
62.5°	1169.5	927.8	634.5	489.6	465.5
65°	1042.6	797.6	525.7	423.2	413.8
67.5°	921.7	676.8	423.2	371.5	362.6
70°	794.8	559.2	350.4	320.2	308.1
72.5°	673.9	450.1	293.1	269.0	262.9
75°	555.9	344.4	241.8	220.6	217.7
77.5°	438.3	244.6	190.5	178.2	172.2
80°	329.2	175.4	144.9	133.0	133.0
82.5°	229.5	118.0	99.7	93.6	93.6
85°	129.9	66.3	57.4	57.4	57.4
87.5°	48.4	24.0	24.0	21.2	21.2
90°	1.7	20.8	56.7	53.1	54.8
92.5°	35.9	48.6	50.3	52.0	52.0
95°	84.3	100.5	103.4	103.4	100.5
97.5°	140.4	155.4	161.8	161.8	161.8
100°	205.1	218.3	223.0	223.0	221.3
102.5°	273.3	283.1	289.4	291.1	289.4
105°	347.8	352.4	355.9	358.8	358.8
107.5°	421.7	428.7	428.7	429.8	421.7
110°	493.4	502.6	502.6	502.6	498.0

TEST NUMBER: P909222

CATALOG NUMBER: DFN2DIP-SQ3F0-080D060US840-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	570.8	580.6	578.9	574.2	570.8
115°	647.0	656.3	653.4	651.7	647.0
117.5°	722.8	735.5	727.3	722.8	718.1
120°	799.0	811.7	799.0	799.0	793.8
122.5°	868.3	884.4	876.4	871.8	868.3
125°	941.1	955.5	950.9	945.7	944.0
127.5°	1012.2	1030.1	1023.7	1016.8	1012.2
130°	1078.6	1099.4	1096.5	1093.1	1086.7
132.5°	1153.2	1169.3	1170.4	1162.4	1157.7
135°	1217.3	1235.2	1238.6	1236.9	1232.2
137.5°	1288.9	1303.3	1306.3	1305.0	1298.2
140°	1351.9	1366.3	1374.4	1374.4	1368.1
142.5°	1416.5	1431.0	1435.6	1437.3	1431.0
145°	1477.8	1489.3	1498.6	1500.4	1494.0
147.5°	1532.7	1547.1	1554.1	1556.9	1550.5
150°	1589.3	1599.1	1605.5	1610.6	1605.5
152.5°	1639.5	1649.4	1657.5	1663.9	1657.5
155°	1689.8	1694.5	1699.6	1707.8	1702.5
157.5°	1733.1	1736.7	1739.5	1751.1	1743.0
160°	1771.9	1775.3	1777.1	1786.9	1780.0
162.5°	1807.7	1807.7	1809.4	1820.4	1812.3
165°	1838.3	1836.5	1836.5	1848.2	1840.1
167.5°	1866.0	1860.9	1860.9	1872.4	1864.3
170°	1886.8	1882.2	1880.5	1892.0	1882.2
172.5°	1901.3	1896.6	1894.9	1906.4	1896.6
175°	1912.8	1908.2	1904.7	1916.3	1906.4
177.5°	1919.1	1914.6	1911.1	1920.9	1911.1
180°	1916.3	1916.3	1916.3	1916.3	1916.3

TEST NUMBER: P909222

CATALOG NUMBER: DFN2DIP-SQ3F0-080D060US840-RLLFLL

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	12.33	13.22	13.24	14.14	15.32	8.29	9.18	9.20	10.10	11.28
	3H	14.01	14.80	14.93	15.73	16.94	9.48	10.27	10.40	11.20	12.41
	4H	14.62	15.37	15.56	16.30	17.52	9.93	10.68	10.87	11.61	12.83
	6H	15.04	15.73	15.99	16.67	17.90	10.25	10.93	11.19	11.88	13.11
	8H	15.17	15.82	16.12	16.78	18.01	10.34	10.99	11.29	11.95	13.18
	12H	15.23	15.85	16.19	16.80	18.05	10.38	11.00	11.34	11.95	13.21
4H	2H	12.36	13.10	13.30	14.04	15.26	8.89	9.64	9.84	10.58	11.79
	3H	14.19	14.81	15.14	15.77	17.00	10.24	10.86	11.19	11.83	13.06
	4H	14.88	15.44	15.84	16.40	17.66	10.79	11.35	11.75	12.31	13.57
	6H	15.39	15.88	16.36	16.86	18.12	11.20	11.69	12.18	12.67	13.93
	8H	15.56	16.02	16.54	17.00	18.27	11.33	11.78	12.30	12.76	14.03
	12H	15.66	16.07	16.65	17.06	18.34	11.39	11.80	12.38	12.80	14.07
8H	4H	14.85	15.30	15.82	16.28	17.55	11.07	11.52	12.04	12.50	13.77
	6H	15.41	15.78	16.41	16.81	18.07	11.58	11.95	12.58	12.98	14.24
	8H	15.62	15.95	16.63	16.96	18.25	11.77	12.10	12.77	13.11	14.39
	12H	15.76	16.05	16.77	17.05	18.39	11.88	12.17	12.89	13.18	14.51
12H	4H	14.80	15.21	15.79	16.21	17.48	11.07	11.48	12.07	12.48	13.75
	6H	15.38	15.71	16.39	16.72	18.01	11.63	11.96	12.64	12.97	14.25
	8H	15.60	15.89	16.61	16.90	18.23	11.83	12.13	12.85	13.13	14.46

END OF REPORT