

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: P911786

Luminaire Tested: DFN2DIP-SQ2F0-080D060US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911786
REPORT IS A COMBINATION OF REPORTS P899818 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-080D060US850-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

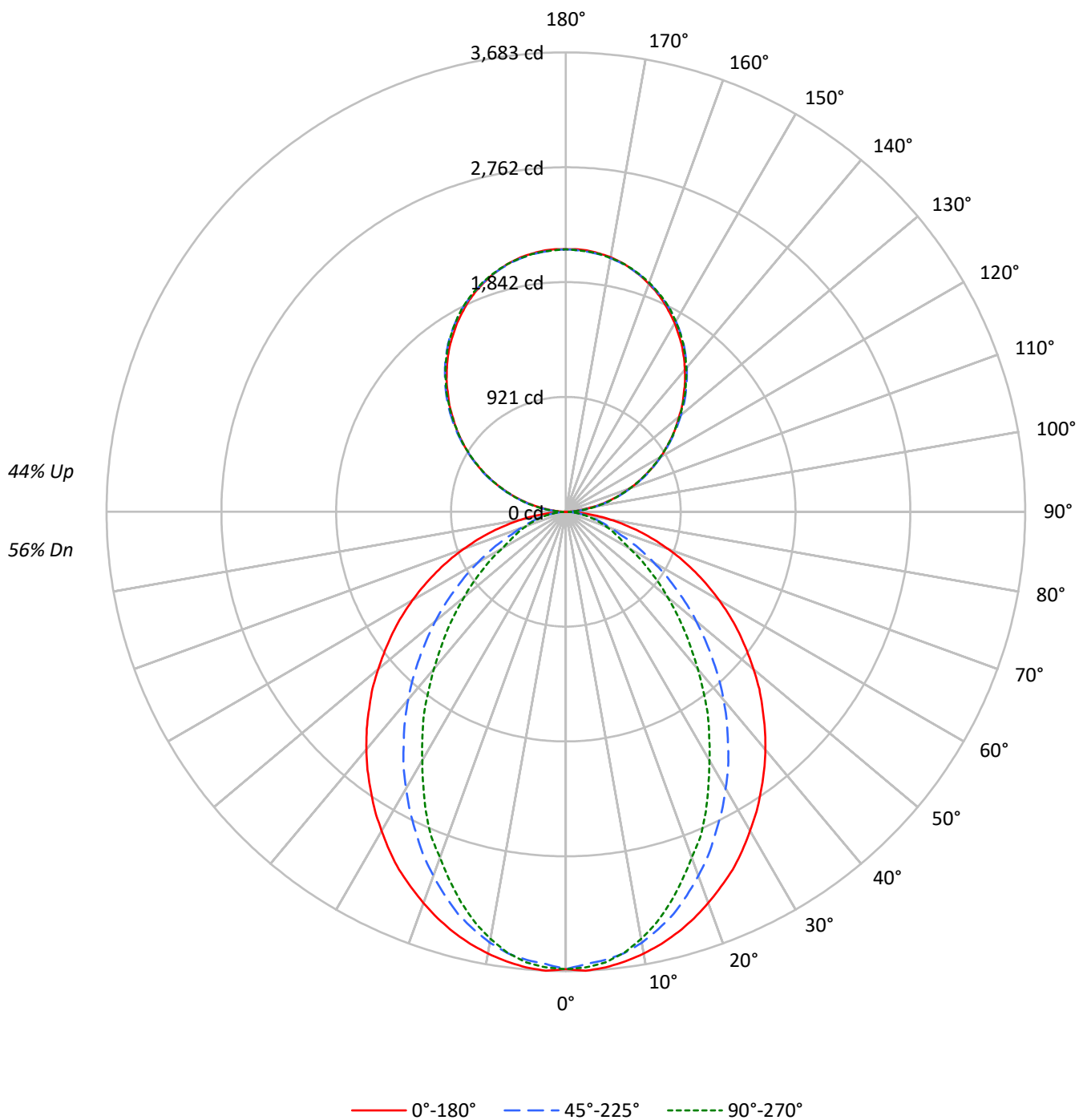
Lumens per Lamp: N/A
Luminaire Lumens: 13430.0 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 124.8
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
RCR																	
0	109	109	109	109	101	101	101	101	87	87	87		74	74	74		62
1	100	96	92	88	93	89	86	83	77	75	72		66	64	63		55
2	91	84	78	73	85	79	73	69	68	64	61		58	56	53		49
3	84	74	67	62	78	70	63	58	61	56	52		52	49	46		44
4	77	66	59	53	71	62	55	50	54	49	45		47	43	40		40
5	71	59	51	46	66	56	49	43	49	43	39		42	38	35		36
6	65	53	46	40	61	50	43	38	44	38	34		38	34	31		33
7	61	48	41	35	56	46	39	34	40	35	30		35	31	27		30
8	56	44	37	31	52	42	35	30	37	31	27		32	28	25		28
9	53	41	33	28	49	38	32	27	34	28	25		30	25	22		26
10	49	37	30	25	46	35	29	24	31	26	22		28	23	20		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8063	8063	8063
5°	8062	7917	7974
10°	7968	7745	7704
15°	7844	7472	7292
20°	7685	7103	6791
25°	7522	6692	6308
30°	7308	6273	5698
35°	7098	5824	5163
40°	6883	5361	4552
45°	6635	4850	3998
50°	6377	4336	3458
55°	6106	3788	2940
60°	5792	3219	2410
65°	5431	2642	2156
70°	4991	2104	1935
75°	4438	1821	1738
80°	3644	1479	1473
85°	2372	918	1048

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6635 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	343.7	2.6
10°-20°	943.4	7.0
20°-30°	1324.5	9.9
30°-40°	1443.8	10.8
40°-50°	1327.0	9.9
50°-60°	1042.1	7.8
60°-70°	678.3	5.1
70°-80°	349.2	2.6
80°-90°	95.1	0.7
90°-100°	130.2	1.0
100°-110°	413.7	3.1
110°-120°	708.0	5.3
120°-130°	931.2	6.9
130°-140°	1045.3	7.8
140°-150°	1025.0	7.6
150°-160°	859.8	6.4
160°-170°	570.2	4.2
170°-180°	199.3	1.5
0°-30°	2611.6	19.4
0°-40°	4055.4	30.2
0°-60°	6424.5	47.8
0°-90°	7547.2	56.2
90°-120°	1252.0	9.3
90°-150°	4253.5	31.7
90°-180°	5883.0	43.8
0°-180°	13430.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3667	3667	3667	3667	3667	
5°	3667	3650	3607	3637	3627	348
15°	3488	3451	3338	3275	3242	983
25°	3166	3060	2840	2705	2655	1456
35°	2728	2558	2267	2058	1984	1707
45°	2230	2008	1659	1423	1344	1722
55°	1696	1437	1078	879	816	1515
65°	1145	876	577	465	454	1135
75°	610	378	266	242	239	646
85°	143	73	63	63	63	164
90°	2	23	62	58	60	13
95°	93	110	114	114	110	103
105°	382	387	391	394	394	403
115°	710	721	718	716	710	703
125°	1034	1049	1044	1039	1037	924
135°	1337	1356	1360	1358	1353	1033
145°	1623	1636	1646	1648	1641	1014
155°	1856	1861	1866	1875	1870	854
165°	2019	2017	2017	2030	2021	569
175°	2101	2096	2092	2104	2094	200
180°	2104	2104	2104	2104	2104	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3666.8	3666.8	3666.8	3666.8	3666.8
2.5°	3683.3	3666.8	3630.2	3663.6	3656.9
5°	3666.8	3650.3	3606.9	3636.9	3627.0
7.5°	3636.9	3617.1	3570.6	3583.7	3567.1
10°	3597.0	3573.9	3507.7	3497.5	3477.7
12.5°	3547.5	3517.5	3427.7	3408.0	3371.4
15°	3487.6	3451.0	3338.3	3275.3	3242.2
17.5°	3417.8	3364.7	3225.3	3152.4	3099.2
20°	3338.3	3271.8	3106.0	3023.2	2949.9
22.5°	3252.0	3175.6	2983.1	2870.4	2820.7
25°	3165.8	3059.5	2840.5	2704.6	2654.6
27.5°	3062.9	2949.9	2707.7	2551.8	2475.4
30°	2953.5	2827.1	2561.7	2392.7	2302.8
32.5°	2847.1	2694.4	2422.6	2223.3	2140.3
35°	2727.8	2558.5	2266.6	2057.5	1984.2
37.5°	2611.6	2428.9	2120.5	1891.3	1808.6
40°	2488.8	2289.9	1967.7	1732.1	1645.9
42.5°	2362.7	2150.5	1815.2	1569.6	1486.7
45°	2230.0	2007.5	1659.3	1423.4	1343.9
47.5°	2104.0	1868.4	1510.0	1274.1	1201.3
50°	1964.5	1729.0	1364.0	1134.7	1065.3
52.5°	1828.3	1579.3	1224.4	1005.5	942.5
55°	1695.6	1436.8	1078.4	879.4	816.4
57.5°	1559.7	1294.2	949.2	763.3	710.1
60°	1420.2	1154.8	812.9	643.9	590.8
62.5°	1284.3	1018.8	696.8	537.6	511.2
65°	1144.9	875.9	577.3	464.8	454.5
67.5°	1012.2	743.3	464.8	408.0	398.2
70°	872.8	614.1	384.8	351.7	338.4
72.5°	740.0	494.3	321.8	295.4	288.7
75°	610.5	378.2	265.5	242.2	239.1
77.5°	481.3	268.6	209.2	195.7	189.1
80°	361.5	192.6	159.1	146.1	146.1
82.5°	252.1	129.5	109.5	102.8	102.8
85°	142.6	72.9	63.0	63.0	63.0
87.5°	53.1	26.4	26.4	23.3	23.3
90°	1.9	22.8	62.2	58.3	60.2
92.5°	39.4	53.3	55.2	57.1	57.1
95°	92.6	110.3	113.6	113.6	110.3
97.5°	154.2	170.7	177.7	177.7	177.7
100°	225.2	239.8	244.9	244.9	243.0
102.5°	300.1	310.9	317.8	319.7	317.8
105°	381.9	387.0	390.8	394.0	394.0
107.5°	463.1	470.8	470.8	472.0	463.1
110°	541.9	551.9	551.9	551.9	546.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	626.8	637.6	635.7	630.6	626.8
115°	710.5	720.7	717.5	715.6	710.5
117.5°	793.7	807.7	798.7	793.7	788.6
120°	877.4	891.4	877.4	877.4	871.7
122.5°	953.5	971.3	962.4	957.4	953.5
125°	1033.5	1049.3	1044.2	1038.6	1036.7
127.5°	1111.6	1131.2	1124.2	1116.7	1111.6
130°	1184.5	1207.4	1204.2	1200.4	1193.4
132.5°	1266.4	1284.1	1285.3	1276.5	1271.4
135°	1336.8	1356.4	1360.2	1358.3	1353.2
137.5°	1415.4	1431.3	1434.5	1433.2	1425.6
140°	1484.6	1500.5	1509.3	1509.3	1502.4
142.5°	1555.6	1571.5	1576.6	1578.4	1571.5
145°	1622.9	1635.6	1645.8	1647.6	1640.7
147.5°	1683.1	1699.0	1706.6	1709.7	1702.8
150°	1745.3	1756.1	1763.1	1768.7	1763.1
152.5°	1800.5	1811.3	1820.2	1827.2	1820.2
155°	1855.7	1860.8	1866.4	1875.4	1869.7
157.5°	1903.3	1907.1	1910.3	1923.0	1914.1
160°	1945.9	1949.6	1951.5	1962.3	1954.7
162.5°	1985.1	1985.1	1987.0	1999.1	1990.2
165°	2018.7	2016.8	2016.8	2029.6	2020.7
167.5°	2049.2	2043.6	2043.6	2056.2	2047.3
170°	2072.1	2067.0	2065.1	2077.7	2067.0
172.5°	2087.9	2082.8	2080.9	2093.6	2082.8
175°	2100.6	2095.6	2091.7	2104.4	2093.6
177.5°	2107.5	2102.6	2098.7	2109.4	2098.7
180°	2104.4	2104.4	2104.4	2104.4	2104.4

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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	14.84	15.73	15.75	16.65	17.83	10.80	11.69	11.71	12.61	13.79
	3H	16.51	17.30	17.43	18.23	19.44	11.98	12.77	12.90	13.70	14.91
	4H	17.10	17.85	18.04	18.79	20.00	12.42	13.16	13.35	14.10	15.32
	6H	17.51	18.20	18.46	19.14	20.37	12.73	13.41	13.67	14.36	15.59
	8H	17.63	18.28	18.59	19.24	20.47	12.81	13.46	13.76	14.42	15.65
	12H	17.69	18.31	18.65	19.26	20.51	12.85	13.47	13.81	14.42	15.67
4H	2H	14.86	15.61	15.80	16.55	17.76	11.39	12.14	12.34	13.08	14.30
	3H	16.67	17.29	17.63	18.26	19.49	12.73	13.35	13.68	14.32	15.55
	4H	17.35	17.92	18.31	18.88	20.14	13.26	13.83	14.22	14.79	16.05
	6H	17.85	18.34	18.83	19.32	20.58	13.67	14.15	14.64	15.14	16.39
	8H	18.02	18.47	18.99	19.45	20.72	13.79	14.24	14.76	15.22	16.49
	12H	18.10	18.51	19.10	19.51	20.78	13.84	14.25	14.84	15.25	16.52
8H	4H	17.32	17.77	18.30	18.75	20.02	13.54	13.99	14.51	14.97	16.24
	6H	17.87	18.24	18.87	19.26	20.53	14.03	14.41	15.03	15.43	16.69
	8H	18.07	18.40	19.08	19.41	20.70	14.21	14.54	15.22	15.55	16.83
	12H	18.20	18.49	19.21	19.49	20.82	14.32	14.61	15.33	15.61	16.94
12H	4H	17.27	17.68	18.27	18.68	19.95	13.54	13.95	14.53	14.95	16.22
	6H	17.84	18.17	18.85	19.18	20.47	14.08	14.41	15.08	15.42	16.70
	8H	18.05	18.34	19.06	19.34	20.68	14.27	14.56	15.28	15.57	16.90