

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: P910680

Luminaire Tested: DFN2DIP-HX2F0-050D060US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P910680
REPORT IS A COMBINATION OF REPORTS P899198 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-050D060US850-RLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

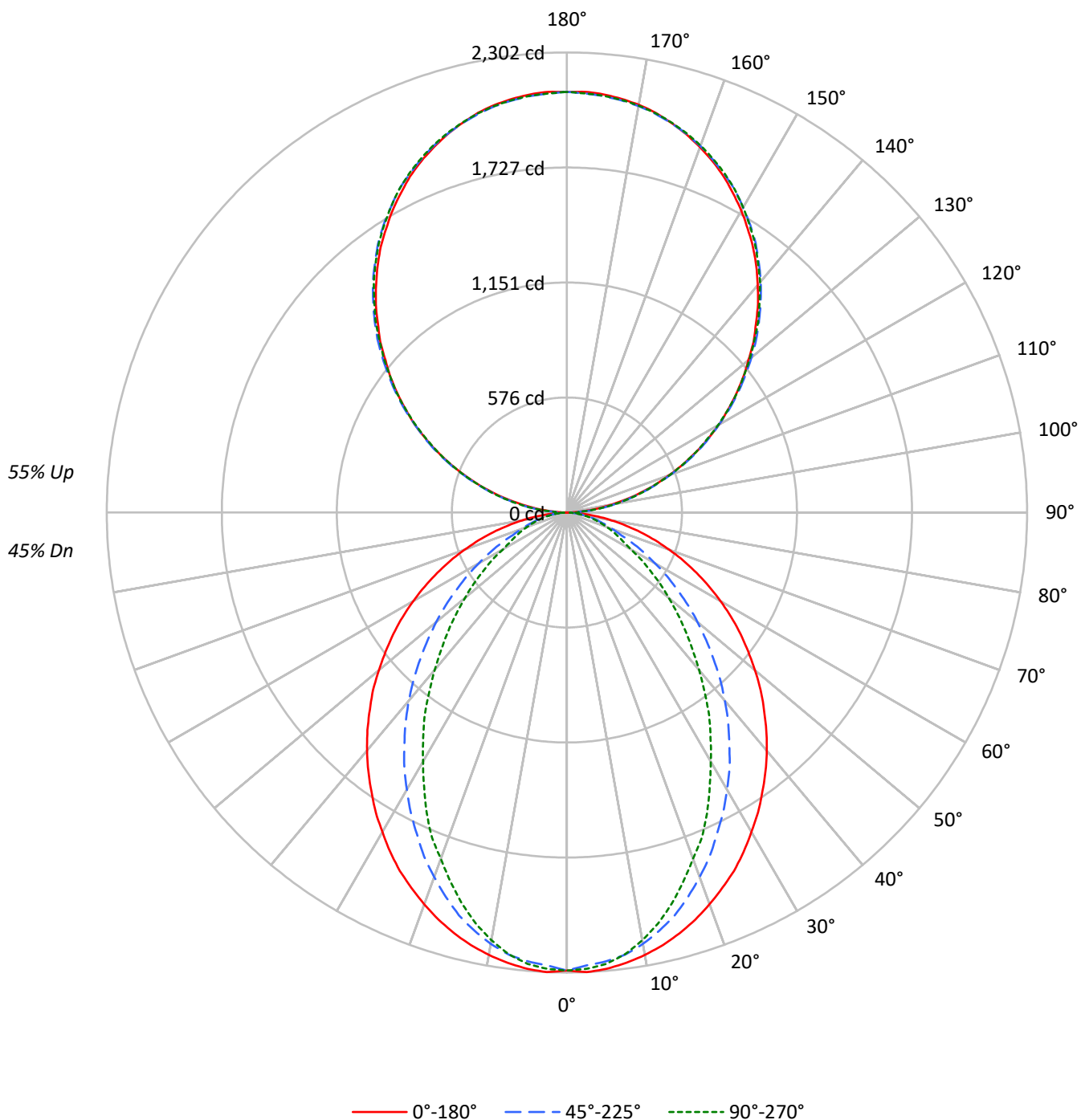
Lumens per Lamp: N/A
Luminaire Lumens: 10602.1 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 95.9
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

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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	50	30	10
RCR																				
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51			45
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44			38
2	89	82	76	71	81	75	70	66	63	59	56	51	49	47	41	39	38			33
3	81	72	65	59	74	66	60	55	56	51	47	46	43	40	37	34	33			28
4	74	64	56	51	68	59	52	47	50	45	41	41	37	35	33	30	28			25
5	68	57	49	44	63	53	46	41	45	39	35	37	33	30	30	27	25			22
6	63	51	44	38	58	48	41	36	40	35	31	34	30	27	27	24	22			19
7	58	47	39	33	54	43	36	31	37	31	28	31	27	24	25	22	20			17
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18			16
9	51	39	31	27	46	36	29	25	31	26	22	26	22	19	21	18	16			14
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	20	17	15			13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5400	5400	5400
5°	5400	5301	5338
10°	5338	5184	5154
15°	5256	5001	4877
20°	5150	4753	4540
25°	5041	4477	4214
30°	4899	4195	3805
35°	4759	3894	3446
40°	4616	3583	3036
45°	4450	3240	2664
50°	4279	2896	2303
55°	4099	2529	1956
60°	3889	2147	1600
65°	3648	1761	1430
70°	3356	1401	1280
75°	2988	1211	1145
80°	2459	981	964
85°	1610	606	676

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4450 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.8	2.0
10°-20°	589.6	5.6
20°-30°	827.8	7.8
30°-40°	902.4	8.5
40°-50°	829.4	7.8
50°-60°	651.3	6.1
60°-70°	424.0	4.0
70°-80°	218.2	2.1
80°-90°	61.7	0.6
90°-100°	130.2	1.2
100°-110°	413.7	3.9
110°-120°	708.0	6.7
120°-130°	931.2	8.8
130°-140°	1045.3	9.9
140°-150°	1025.0	9.7
150°-160°	859.8	8.1
160°-170°	570.2	5.4
170°-180°	199.3	1.9
0°-30°	1632.2	15.4
0°-40°	2534.6	23.9
0°-60°	4015.3	37.9
0°-90°	4719.3	44.5
90°-120°	1252.0	11.8
90°-150°	4253.5	40.1
90°-180°	5883.0	55.5
0°-180°	10602.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2292	2292	2292	2292	2292	
5°	2292	2281	2254	2273	2267	217
15°	2180	2157	2086	2047	2026	614
25°	1979	1912	1775	1690	1659	910
35°	1705	1599	1417	1286	1240	1067
45°	1394	1255	1037	890	840	1076
55°	1060	898	674	550	510	947
65°	716	548	361	290	284	709
75°	382	236	166	151	149	404
85°	89	46	39	39	39	102
90°	2	23	62	58	60	10
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°	2291.7	2291.7	2291.7	2291.7	2291.7
2.5°	2302.1	2291.7	2268.9	2289.8	2285.5
5°	2291.7	2281.4	2254.4	2273.0	2266.9
7.5°	2273.0	2260.7	2231.6	2239.8	2229.4
10°	2248.2	2233.6	2192.3	2185.9	2173.5
12.5°	2217.1	2198.5	2142.4	2130.1	2107.1
15°	2179.7	2156.9	2086.5	2047.1	2026.4
17.5°	2136.2	2103.0	2015.8	1970.2	1937.0
20°	2086.5	2044.9	1941.2	1889.5	1843.7
22.5°	2032.6	1984.8	1864.5	1794.0	1763.0
25°	1978.6	1912.1	1775.3	1690.3	1659.1
27.5°	1914.4	1843.7	1692.3	1594.9	1547.2
30°	1845.9	1767.0	1601.1	1495.4	1439.3
32.5°	1779.5	1684.0	1514.1	1389.6	1337.7
35°	1704.9	1599.1	1416.6	1285.9	1240.2
37.5°	1632.2	1518.1	1325.4	1182.1	1130.4
40°	1555.5	1431.2	1229.8	1082.6	1028.7
42.5°	1476.7	1344.0	1134.5	980.9	929.2
45°	1393.8	1254.7	1037.0	889.6	839.8
47.5°	1314.9	1167.8	943.8	796.4	750.8
50°	1227.9	1080.6	852.5	709.2	665.8
52.5°	1142.7	987.1	765.3	628.5	589.1
55°	1059.8	898.0	673.9	549.6	510.3
57.5°	974.8	808.9	593.2	477.1	443.8
60°	887.6	721.7	508.0	402.5	369.2
62.5°	802.7	636.8	435.5	336.0	319.5
65°	715.5	547.5	360.9	290.4	284.1
67.5°	632.6	464.6	290.4	255.1	248.9
70°	545.5	383.7	240.5	219.8	211.5
72.5°	462.6	309.0	201.2	184.6	180.4
75°	381.6	236.3	165.9	151.4	149.4
77.5°	300.8	167.9	130.8	122.3	118.1
80°	226.0	120.3	99.5	91.3	91.3
82.5°	157.6	81.0	68.4	64.2	64.2
85°	89.2	45.6	39.4	39.4	39.4
87.5°	33.3	16.5	16.5	14.5	14.5
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	12.33	13.12	13.34	14.13	15.48	8.31	9.10	9.32	10.12	11.47
	3H	13.98	14.69	15.00	15.71	17.08	9.48	10.19	10.50	11.21	12.58
	4H	14.57	15.24	15.60	16.26	17.64	9.92	10.59	10.95	11.61	12.99
	6H	14.97	15.58	16.01	16.61	18.00	10.22	10.84	11.27	11.87	13.26
	8H	15.08	15.67	16.13	16.71	18.10	10.31	10.89	11.35	11.94	13.32
	12H	15.13	15.69	16.19	16.73	18.14	10.34	10.89	11.39	11.93	13.34
4H	2H	12.34	13.01	13.38	14.03	15.41	8.89	9.56	9.93	10.58	11.96
	3H	14.14	14.69	15.18	15.75	17.14	10.22	10.77	11.26	11.83	13.22
	4H	14.81	15.32	15.86	16.36	17.78	10.75	11.26	11.80	12.30	13.72
	6H	15.30	15.73	16.36	16.80	18.21	11.15	11.58	12.21	12.65	14.06
	8H	15.46	15.86	16.52	16.93	18.35	11.27	11.67	12.33	12.73	14.16
	12H	15.54	15.90	16.62	16.98	18.41	11.32	11.69	12.40	12.76	14.19
8H	4H	14.77	15.18	15.83	16.24	17.66	11.01	11.42	12.07	12.48	13.90
	6H	15.31	15.64	16.39	16.75	18.17	11.50	11.84	12.59	12.94	14.36
	8H	15.51	15.80	16.60	16.89	18.33	11.68	11.98	12.77	13.06	14.50
	12H	15.63	15.89	16.72	16.97	18.45	11.79	12.04	12.88	13.13	14.61
12H	4H	14.72	15.09	15.80	16.16	17.59	11.01	11.38	12.09	12.45	13.88
	6H	15.28	15.57	16.37	16.66	18.10	11.55	11.84	12.64	12.93	14.37
	8H	15.48	15.74	16.58	16.82	18.30	11.74	12.00	12.84	13.08	14.56