

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: P910697

Luminaire Tested: DFN2DIP-HX2F0-060D050US850-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P910697
REPORT IS A COMBINATION OF REPORTS P900710 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-060D050US850-RLLONL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

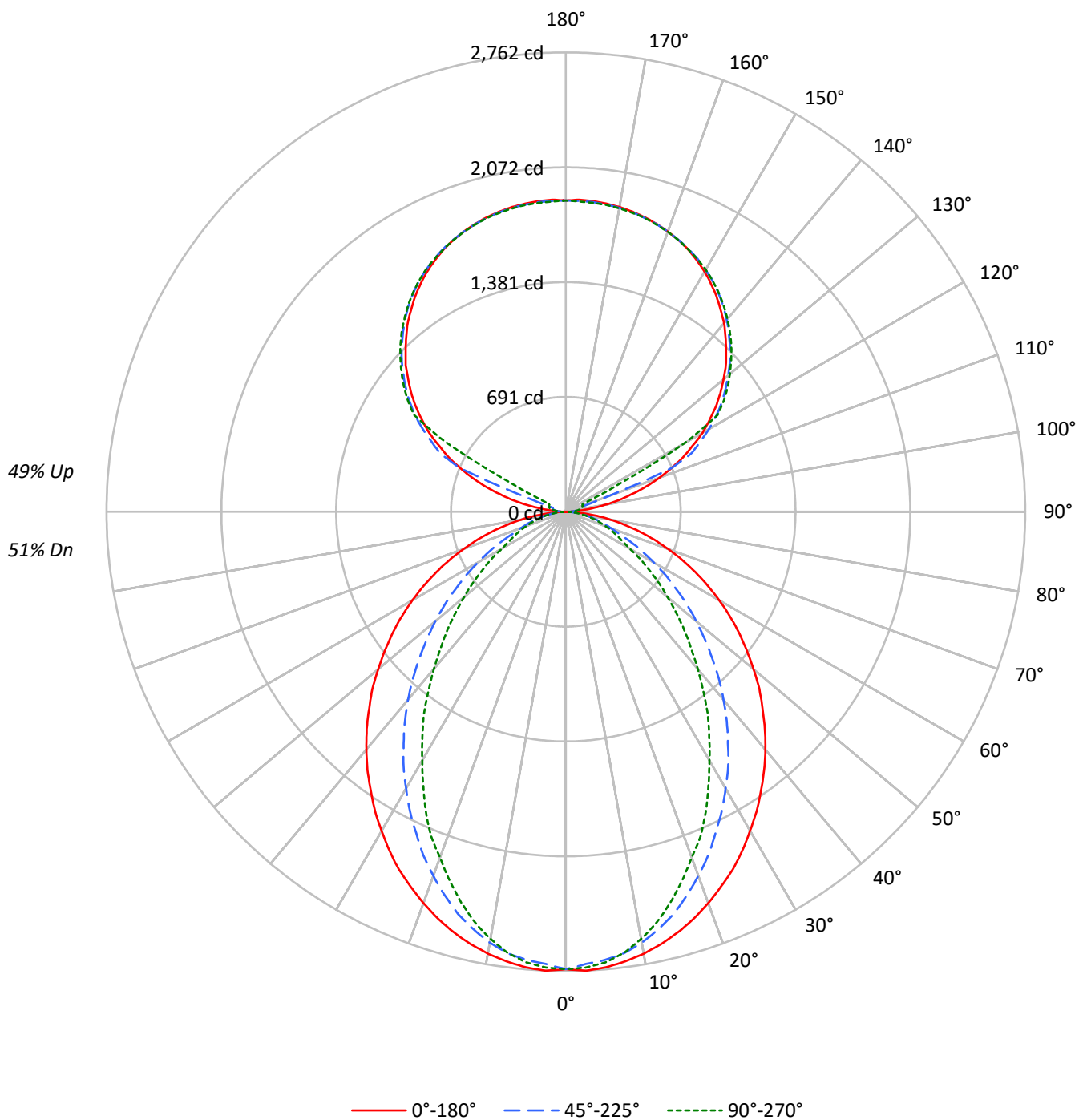
Lumens per Lamp: N/A
Luminaire Lumens: 11145.5 lumens
Efficiency: N/A
Efficacy: 113.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 97.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P910697

CATALOG NUMBER: DFN2DIP-HX2F0-060D050US850-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P910697

CATALOG NUMBER: DFN2DIP-HX2F0-060D050US850-RLLONL

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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57
1	98	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49
2	90	83	77	72	83	77	72	67	66	62	59	55	52	50	45	44	42
3	82	73	66	61	76	68	62	57	58	54	50	49	46	43	41	38	36
4	76	65	58	52	70	61	54	49	52	47	43	44	40	37	37	34	32
5	70	58	50	45	64	54	47	42	47	41	37	40	36	33	33	30	28
6	64	53	45	39	59	49	42	37	42	37	33	36	32	29	30	27	25
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	22
8	55	43	36	31	51	41	34	29	35	30	26	30	26	23	26	23	20
9	52	40	32	27	48	37	31	26	32	27	23	28	24	21	24	21	18
10	48	36	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6480	6480	6480
5°	6480	6361	6406
10°	6405	6221	6185
15°	6307	6001	5852
20°	6180	5703	5448
25°	6050	5372	5057
30°	5879	5034	4567
35°	5711	4673	4135
40°	5539	4300	3643
45°	5340	3889	3198
50°	5134	3475	2763
55°	4918	3035	2347
60°	4668	2577	1920
65°	4378	2114	1716
70°	4027	1682	1536
75°	3586	1453	1374
80°	2951	1176	1157
85°	1930	726	810

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5340 cd/sqm

TEST NUMBER: P910697

CATALOG NUMBER: DFN2DIP-HX2F0-060D050US850-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.7	2.3
10°-20°	707.6	6.3
20°-30°	993.4	8.9
30°-40°	1082.8	9.7
40°-50°	995.2	8.9
50°-60°	781.6	7.0
60°-70°	508.8	4.6
70°-80°	261.9	2.3
80°-90°	70.1	0.6
90°-100°	61.7	0.6
100°-110°	230.0	2.1
110°-120°	610.1	5.5
120°-130°	1011.9	9.1
130°-140°	1074.8	9.6
140°-150°	999.0	9.0
150°-160°	803.1	7.2
160°-170°	517.5	4.6
170°-180°	178.1	1.6
0°-30°	1958.7	17.6
0°-40°	3041.5	27.3
0°-60°	4818.4	43.2
0°-90°	5659.2	50.8
90°-120°	901.9	8.1
90°-150°	3987.5	35.8
90°-180°	5486.0	49.2
0°-180°	11145.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2750	2750	2750	2750	2750	
5°	2750	2738	2705	2728	2720	261
15°	2616	2588	2504	2456	2432	737
25°	2374	2295	2130	2028	1991	1092
35°	2046	1919	1700	1543	1488	1281
45°	1672	1506	1244	1068	1008	1292
55°	1272	1078	809	660	612	1136
65°	859	657	433	349	341	851
75°	458	284	199	182	179	484
85°	107	55	47	47	47	123
90°	1	16	27	34	36	10
95°	88	43	53	60	58	104
105°	412	452	83	98	103	440
115°	779	802	836	209	111	767
125°	1101	1118	1144	1154	1158	982
135°	1362	1384	1396	1410	1407	1052
145°	1580	1579	1602	1611	1605	988
155°	1740	1728	1744	1752	1742	802
165°	1833	1825	1829	1839	1829	518
175°	1875	1866	1869	1878	1865	178
180°	1871	1871	1871	1871	1871	

TEST NUMBER: P910697

CATALOG NUMBER: DFN2DIP-HX2F0-060D050US850-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2750.1	2750.1	2750.1	2750.1	2750.1
2.5°	2762.5	2750.1	2722.6	2747.7	2742.7
5°	2750.1	2737.7	2705.2	2727.7	2720.3
7.5°	2727.7	2712.8	2678.0	2687.8	2675.4
10°	2697.8	2680.3	2630.8	2623.1	2608.3
12.5°	2660.6	2638.1	2570.8	2556.0	2528.5
15°	2615.7	2588.2	2503.7	2456.4	2431.6
17.5°	2563.5	2523.5	2419.0	2364.3	2324.5
20°	2503.7	2453.8	2329.5	2267.4	2212.5
22.5°	2439.0	2381.7	2237.3	2152.8	2115.5
25°	2374.4	2294.6	2130.4	2028.5	1991.0
27.5°	2297.3	2212.5	2030.8	1913.8	1856.6
30°	2215.1	2120.3	1921.2	1794.5	1727.2
32.5°	2135.4	2020.8	1817.0	1667.5	1605.2
35°	2045.9	1918.9	1700.0	1543.1	1488.2
37.5°	1958.7	1821.6	1590.4	1418.5	1356.4
40°	1866.6	1717.4	1475.7	1299.1	1234.4
42.5°	1772.1	1612.8	1361.4	1177.1	1115.1
45°	1672.5	1505.6	1244.5	1067.5	1007.9
47.5°	1578.0	1401.3	1132.5	955.6	901.0
50°	1473.4	1296.8	1022.9	851.0	799.0
52.5°	1371.2	1184.5	918.4	754.1	706.9
55°	1271.7	1077.6	808.8	659.6	612.3
57.5°	1169.8	970.6	711.9	572.5	532.5
60°	1065.2	866.1	609.7	483.0	443.0
62.5°	963.3	764.2	522.6	403.2	383.4
65°	858.7	657.0	433.1	348.6	340.9
67.5°	759.1	557.4	348.6	306.1	298.7
70°	654.5	460.5	288.6	263.8	253.7
72.5°	555.1	370.7	241.3	221.6	216.5
75°	457.9	283.6	199.1	181.7	179.3
77.5°	361.0	201.5	156.8	146.8	141.8
80°	271.2	144.4	119.3	109.6	109.6
82.5°	189.1	97.1	82.1	77.1	77.1
85°	106.9	54.7	47.2	47.2	47.2
87.5°	39.9	19.9	19.9	17.4	17.4
90°	1.3	16.2	27.1	33.9	36.5
92.5°	33.9	28.5	32.5	35.3	36.5
95°	87.9	43.3	52.8	59.7	58.2
97.5°	158.4	47.5	69.0	73.2	74.4
100°	239.8	54.2	77.2	87.9	90.7
102.5°	329.0	326.4	80.0	94.7	98.9
105°	411.7	452.4	82.6	97.5	102.9
107.5°	507.8	541.5	85.4	100.1	105.7
110°	600.0	628.2	237.0	101.6	106.9

TEST NUMBER: P910697

CATALOG NUMBER: DFN2DIP-HX2F0-060D050US850-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	686.6	710.9	687.9	104.2	108.3
115°	778.6	801.6	835.5	208.6	111.1
117.5°	858.5	885.5	908.7	714.9	360.2
120°	947.9	968.2	992.6	1008.9	826.0
122.5°	1023.6	1045.3	1072.5	1080.6	1082.1
125°	1100.8	1118.5	1144.3	1153.7	1157.8
127.5°	1171.2	1190.2	1210.7	1224.1	1225.4
130°	1237.6	1259.4	1274.1	1289.1	1287.9
132.5°	1305.4	1323.0	1337.8	1350.1	1348.8
135°	1362.3	1384.0	1396.0	1409.8	1407.0
137.5°	1421.7	1438.0	1451.7	1465.2	1461.2
140°	1480.0	1490.9	1505.7	1517.9	1511.2
142.5°	1528.9	1538.4	1555.9	1566.7	1559.9
145°	1580.3	1578.9	1601.8	1611.4	1604.6
147.5°	1624.9	1620.8	1643.9	1650.6	1645.3
150°	1668.3	1658.8	1680.5	1688.6	1681.8
152.5°	1704.8	1694.0	1714.3	1722.5	1713.0
155°	1740.0	1727.9	1744.1	1752.2	1741.5
157.5°	1768.4	1757.7	1769.9	1779.4	1768.4
160°	1792.9	1784.7	1792.9	1800.9	1791.5
162.5°	1814.4	1806.5	1813.1	1822.6	1810.4
165°	1833.4	1825.4	1829.4	1838.8	1829.4
167.5°	1848.4	1840.2	1844.4	1853.8	1841.6
170°	1860.6	1852.4	1855.1	1864.6	1852.4
172.5°	1868.7	1860.6	1863.3	1872.8	1860.6
175°	1875.4	1865.9	1868.7	1878.1	1864.6
177.5°	1878.1	1868.7	1870.1	1879.5	1867.3
180°	1871.3	1871.3	1871.3	1871.3	1871.3

TEST NUMBER: P910697

CATALOG NUMBER: DFN2DIP-HX2F0-060D050US850-RLONL

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	13.57	14.41	14.53	15.38	16.64	9.56	10.39	10.51	11.36	12.62
	3H	15.23	15.98	16.20	16.95	18.24	10.73	11.48	11.70	12.46	13.74
	4H	15.82	16.53	16.80	17.51	18.80	11.17	11.88	12.15	12.86	14.15
	6H	16.22	16.87	17.21	17.86	19.16	11.48	12.13	12.47	13.11	14.42
	8H	16.34	16.96	17.34	17.96	19.26	11.56	12.18	12.56	13.18	14.48
	12H	16.39	16.98	17.39	17.97	19.30	11.59	12.18	12.60	13.18	14.51
4H	2H	13.59	14.30	14.58	15.28	16.57	10.14	10.85	11.13	11.83	13.12
	3H	15.39	15.98	16.39	16.99	18.30	11.47	12.06	12.47	13.07	14.38
	4H	16.06	16.60	17.07	17.60	18.94	12.00	12.54	13.01	13.54	14.88
	6H	16.56	17.02	17.57	18.04	19.37	12.41	12.87	13.42	13.89	15.22
	8H	16.72	17.15	17.73	18.17	19.51	12.53	12.96	13.54	13.98	15.32
	12H	16.80	17.19	17.83	18.22	19.57	12.58	12.97	13.62	14.00	15.35
8H	4H	16.03	16.46	17.05	17.48	18.82	12.27	12.70	13.29	13.72	15.06
	6H	16.57	16.92	17.61	17.98	19.33	12.77	13.12	13.81	14.18	15.52
	8H	16.77	17.08	17.82	18.13	19.49	12.94	13.26	13.99	14.30	15.66
	12H	16.89	17.16	17.94	18.21	19.61	13.05	13.32	14.10	14.37	15.77
12H	4H	15.98	16.37	17.02	17.40	18.75	12.27	12.66	13.31	13.70	15.04
	6H	16.54	16.85	17.59	17.90	19.26	12.81	13.12	13.86	14.17	15.53
	8H	16.74	17.02	17.80	18.06	19.46	13.00	13.28	14.06	14.32	15.72