

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: P910617

Luminaire Tested: DFN2DIP-HX2F0-020D050US850-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P910617
REPORT IS A COMBINATION OF REPORTS P900702 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-020D050US850-RLLONL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

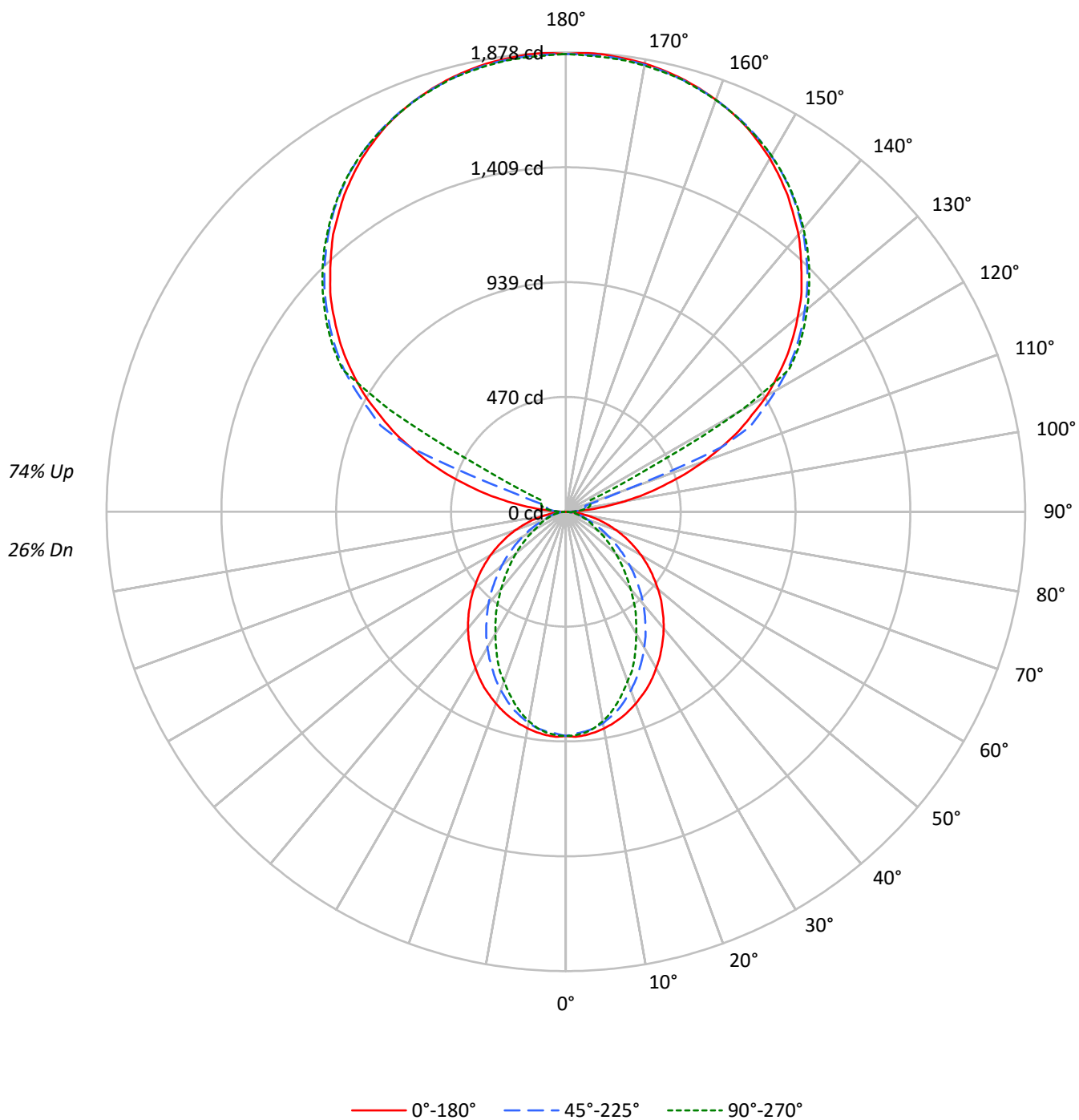
Lumens per Lamp: N/A
Luminaire Lumens: 7374.9 lumens
Efficiency: N/A
Efficacy: 137.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 53.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P910617

CATALOG NUMBER: DFN2DIP-HX2F0-020D050US850-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P910617

CATALOG NUMBER: DFN2DIP-HX2F0-020D050US850-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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34
1	93	88	85	82	82	79	76	73	61	59	58	45	44	43	30	29	29
2	84	77	72	67	75	69	65	60	54	51	48	40	38	36	27	26	25
3	77	68	61	56	69	61	55	51	48	44	41	35	33	31	24	23	21
4	71	60	53	47	63	54	48	43	43	38	35	32	29	26	22	20	19
5	65	54	46	41	58	48	42	37	38	33	30	28	25	23	19	18	16
6	60	48	41	35	53	43	37	32	34	30	26	26	23	20	18	16	14
7	55	43	36	31	49	39	33	28	31	26	23	23	20	18	16	14	13
8	51	39	32	27	45	36	29	25	28	24	20	21	18	16	15	13	12
9	47	36	29	24	42	32	26	22	26	21	18	20	16	14	14	12	10
10	44	33	26	21	39	30	24	20	24	19	16	18	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2160	2160	2160
5°	2160	2120	2135
10°	2135	2074	2062
15°	2102	2000	1951
20°	2060	1901	1816
25°	2017	1791	1686
30°	1960	1678	1522
35°	1903	1558	1378
40°	1846	1433	1214
45°	1780	1296	1066
50°	1712	1158	921
55°	1639	1012	782
60°	1556	859	640
65°	1459	705	572
70°	1342	561	512
75°	1195	484	458
80°	984	392	385
85°	643	241	270

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1780 cd/sqm

TEST NUMBER: P910617

CATALOG NUMBER: DFN2DIP-HX2F0-020D050US850-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.9	1.2
10°-20°	235.8	3.2
20°-30°	331.1	4.5
30°-40°	361.0	4.9
40°-50°	331.8	4.5
50°-60°	260.6	3.5
60°-70°	169.6	2.3
70°-80°	87.3	1.2
80°-90°	25.6	0.3
90°-100°	61.7	0.8
100°-110°	230.0	3.1
110°-120°	610.1	8.3
120°-130°	1011.9	13.7
130°-140°	1074.8	14.6
140°-150°	999.0	13.5
150°-160°	803.1	10.9
160°-170°	517.5	7.0
170°-180°	178.1	2.4
0°-30°	652.9	8.9
0°-40°	1013.8	13.7
0°-60°	1606.2	21.8
0°-90°	1888.6	25.6
90°-120°	901.9	12.2
90°-150°	3987.5	54.1
90°-180°	5486.0	74.4
0°-180°	7374.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	917	917	917	917	917	
5°	917	913	902	909	907	87
15°	872	863	834	819	811	246
25°	792	765	710	676	664	364
35°	682	640	567	514	496	427
45°	558	502	415	356	336	431
55°	424	359	270	220	204	379
65°	286	219	144	116	114	284
75°	153	94	66	61	60	161
85°	36	18	16	16	16	41
90°	1	16	27	34	36	7
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: P910617

CATALOG NUMBER: DFN2DIP-HX2F0-020D050US850-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	916.7	916.7	916.7	916.7	916.7
2.5°	920.8	916.7	907.5	915.9	914.3
5°	916.7	912.6	901.7	909.3	906.7
7.5°	909.3	904.3	892.6	896.0	891.7
10°	899.3	893.4	876.9	874.3	869.5
12.5°	886.9	879.3	856.9	852.0	842.8
15°	871.9	862.7	834.5	818.8	810.6
17.5°	854.5	841.2	806.4	788.1	774.9
20°	834.5	817.9	776.5	755.8	737.5
22.5°	813.0	793.9	745.8	717.6	705.2
25°	791.5	764.9	710.1	676.2	663.6
27.5°	765.8	737.5	676.9	637.9	618.8
30°	738.4	706.8	640.4	598.2	575.7
32.5°	711.8	673.6	605.6	555.8	535.1
35°	681.9	639.7	566.7	514.4	496.1
37.5°	652.9	607.2	530.1	472.9	452.1
40°	622.1	572.5	492.0	433.1	411.4
42.5°	590.7	537.6	453.8	392.4	371.7
45°	557.5	501.8	414.9	355.9	335.9
47.5°	526.0	467.1	377.5	318.5	300.3
50°	491.2	432.3	341.0	283.7	266.4
52.5°	457.0	394.8	306.1	251.4	235.7
55°	423.9	359.2	269.6	219.9	204.1
57.5°	389.9	323.5	237.3	190.9	177.6
60°	355.1	288.7	203.3	161.0	147.7
62.5°	321.1	254.7	174.2	134.4	127.8
65°	286.2	219.0	144.4	116.2	113.7
67.5°	253.1	185.8	116.2	102.0	99.6
70°	218.1	153.5	96.2	87.9	84.6
72.5°	185.0	123.5	80.4	73.9	72.2
75°	152.6	94.5	66.3	60.6	59.8
77.5°	120.3	67.2	52.2	48.9	47.2
80°	90.4	48.1	39.8	36.5	36.5
82.5°	63.0	32.4	27.4	25.7	25.7
85°	35.6	18.2	15.7	15.7	15.7
87.5°	13.3	6.7	6.7	5.8	5.8
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: P910617

CATALOG NUMBER: DFN2DIP-HX2F0-020D050US850-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: P910617

CATALOG NUMBER: DFN2DIP-HX2F0-020D050US850-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	6.81	7.47	7.96	8.61	10.19	2.80	3.46	3.94	4.59	6.18
	3H	8.45	9.04	9.60	10.18	11.78	3.95	4.55	5.11	5.69	7.29
	4H	9.03	9.60	10.20	10.74	12.34	4.38	4.95	5.55	6.09	7.69
	6H	9.43	9.94	10.60	11.09	12.70	4.68	5.20	5.85	6.34	7.96
	8H	9.54	10.03	10.71	11.19	12.79	4.76	5.25	5.93	6.41	8.02
	12H	9.58	10.05	10.76	11.20	12.83	4.79	5.26	5.97	6.41	8.04
4H	2H	6.80	7.37	7.97	8.51	10.11	3.36	3.92	4.53	5.06	6.66
	3H	8.59	9.06	9.76	10.22	11.84	4.67	5.14	5.84	6.31	7.92
	4H	9.25	9.69	10.43	10.84	12.48	5.20	5.63	6.37	6.78	8.42
	6H	9.74	10.11	10.92	11.28	12.91	5.59	5.96	6.77	7.14	8.76
	8H	9.89	10.24	11.07	11.41	13.05	5.70	6.05	6.88	7.22	8.86
	12H	9.97	10.28	11.16	11.46	13.11	5.75	6.06	6.95	7.24	8.89
8H	4H	9.21	9.55	10.39	10.72	12.36	5.45	5.79	6.63	6.96	8.60
	6H	9.74	10.02	10.94	11.23	12.87	5.94	6.22	7.14	7.43	9.07
	8H	9.94	10.19	11.14	11.37	13.03	6.11	6.36	7.32	7.55	9.21
	12H	10.05	10.27	11.26	11.45	13.14	6.21	6.43	7.42	7.61	9.30
12H	4H	9.15	9.46	10.34	10.64	12.29	5.44	5.76	6.64	6.93	8.58
	6H	9.71	9.96	10.92	11.15	12.81	5.98	6.23	7.18	7.42	9.07
	8H	9.91	10.12	11.11	11.31	13.00	6.17	6.38	7.37	7.57	9.26

END OF REPORT