

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: P905221

Luminaire Tested: DFN2DIP-HX2F0-050D050US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905221
REPORT IS A COMBINATION OF REPORTS P900708 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-050D050US835-RLLONL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

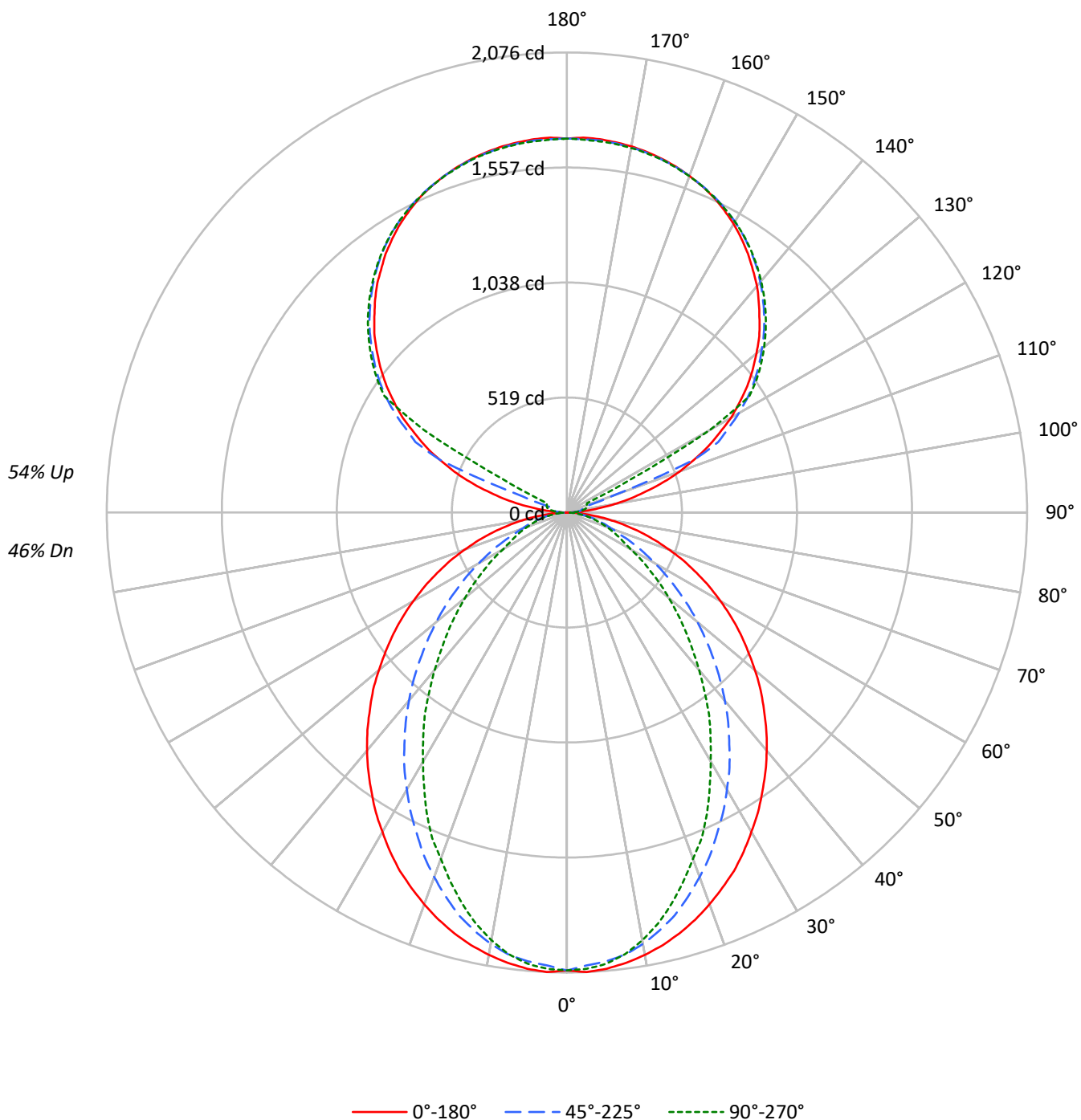
Lumens per Lamp: N/A
Luminaire Lumens: 9200.0 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 86
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

TEST NUMBER: P905221

CATALOG NUMBER: DFN2DIP-HX2F0-050D050US835-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P905221

CATALOG NUMBER: DFN2DIP-HX2F0-050D050US835-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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4869	4869	4869
5°	4869	4780	4813
10°	4813	4675	4648
15°	4739	4509	4398
20°	4644	4285	4094
25°	4546	4037	3800
30°	4417	3783	3431
35°	4291	3511	3107
40°	4162	3231	2738
45°	4013	2922	2403
50°	3858	2611	2076
55°	3696	2280	1763
60°	3507	1936	1443
65°	3290	1588	1289
70°	3027	1264	1154
75°	2695	1092	1033
80°	2218	884	869
85°	1451	546	609

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 4013 cd/sqm

TEST NUMBER: P905221

CATALOG NUMBER: DFN2DIP-HX2F0-050D050US835-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	2.1
10°-20°	531.7	5.8
20°-30°	746.5	8.1
30°-40°	813.7	8.8
40°-50°	747.9	8.1
50°-60°	587.3	6.4
60°-70°	382.3	4.2
70°-80°	196.8	2.1
80°-90°	53.2	0.6
90°-100°	55.7	0.6
100°-110°	207.4	2.3
110°-120°	550.1	6.0
120°-130°	912.4	9.9
130°-140°	969.2	10.5
140°-150°	900.8	9.8
150°-160°	724.2	7.9
160°-170°	466.6	5.1
170°-180°	160.6	1.7
0°-30°	1471.8	16.0
0°-40°	2285.5	24.8
0°-60°	3620.7	39.4
0°-90°	4253.0	46.2
90°-120°	813.2	8.8
90°-150°	3595.6	39.1
90°-180°	4947.0	53.8
0°-180°	9200.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2066	2066	2066	2066	2066	
5°	2066	2057	2033	2050	2044	196
15°	1966	1945	1881	1846	1827	554
25°	1784	1724	1601	1524	1496	821
35°	1537	1442	1277	1160	1118	962
45°	1257	1131	935	802	757	971
55°	956	810	608	496	460	854
65°	645	494	325	262	256	640
75°	344	213	150	136	135	364
85°	80	41	36	36	36	92
90°	1	15	24	31	33	9
95°	79	39	48	54	52	94
105°	371	408	74	88	93	397
115°	702	723	753	188	100	691
125°	993	1009	1032	1040	1044	885
135°	1228	1248	1259	1271	1269	949
145°	1425	1424	1444	1453	1447	891
155°	1569	1558	1573	1580	1570	723
165°	1653	1646	1650	1658	1650	467
175°	1691	1682	1685	1694	1681	161
180°	1687	1687	1687	1687	1687	

TEST NUMBER: P905221

CATALOG NUMBER: DFN2DIP-HX2F0-050D050US835-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2066.5	2066.5	2066.5	2066.5	2066.5
2.5°	2075.8	2066.5	2045.9	2064.7	2060.9
5°	2066.5	2057.2	2032.8	2049.6	2044.1
7.5°	2049.6	2038.5	2012.3	2019.7	2010.3
10°	2027.2	2014.1	1976.8	1971.1	1959.9
12.5°	1999.2	1982.4	1931.8	1920.7	1900.0
15°	1965.5	1944.9	1881.4	1845.9	1827.2
17.5°	1926.2	1896.3	1817.7	1776.6	1746.6
20°	1881.4	1843.9	1750.4	1703.8	1662.5
22.5°	1832.8	1789.7	1681.2	1617.7	1589.7
25°	1784.1	1724.2	1600.8	1524.2	1496.0
27.5°	1726.2	1662.5	1526.0	1438.1	1395.1
30°	1664.5	1593.3	1443.7	1348.4	1297.8
32.5°	1604.6	1518.5	1365.3	1253.0	1206.2
35°	1537.3	1441.9	1277.4	1159.5	1118.3
37.5°	1471.8	1368.9	1195.1	1065.9	1019.3
40°	1402.6	1290.5	1108.9	976.2	927.6
42.5°	1331.6	1211.9	1023.0	884.5	837.9
45°	1256.8	1131.4	935.1	802.2	757.3
47.5°	1185.7	1053.0	851.0	718.1	677.0
50°	1107.2	974.4	768.7	639.5	600.4
52.5°	1030.4	890.1	690.1	566.7	531.2
55°	955.6	809.7	607.7	495.6	460.1
57.5°	879.0	729.4	534.9	430.2	400.2
60°	800.4	650.8	458.1	362.9	332.9
62.5°	723.8	574.2	392.7	303.0	288.1
65°	645.2	493.7	325.4	261.9	256.2
67.5°	570.4	418.9	261.9	230.0	224.4
70°	491.9	346.0	216.9	198.2	190.7
72.5°	417.1	278.6	181.4	166.5	162.7
75°	344.1	213.1	149.6	136.5	134.7
77.5°	271.2	151.4	117.9	110.3	106.5
80°	203.8	108.5	89.7	82.3	82.3
82.5°	142.1	73.0	61.7	57.9	57.9
85°	80.4	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
90°	1.2	14.6	24.4	30.6	32.9
92.5°	30.6	25.7	29.3	31.8	32.9
95°	79.3	39.0	47.6	53.8	52.5
97.5°	142.8	42.8	62.2	66.0	67.1
100°	216.2	48.9	69.6	79.3	81.8
102.5°	296.7	294.3	72.1	85.4	89.2
105°	371.2	407.9	74.5	87.9	92.8
107.5°	457.9	488.3	77.0	90.3	95.3
110°	541.0	566.5	213.7	91.6	96.4

TEST NUMBER: P905221

CATALOG NUMBER: DFN2DIP-HX2F0-050D050US835-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	619.1	641.0	620.3	94.0	97.7
115°	702.1	722.8	753.4	188.1	100.2
117.5°	774.1	798.5	819.4	644.6	324.8
120°	854.7	873.0	895.0	909.7	744.8
122.5°	923.0	942.6	967.1	974.4	975.7
125°	992.6	1008.6	1031.8	1040.3	1044.0
127.5°	1056.1	1073.2	1091.7	1103.8	1105.0
130°	1116.0	1135.6	1148.9	1162.4	1161.3
132.5°	1177.1	1193.0	1206.3	1217.4	1216.2
135°	1228.4	1248.0	1258.8	1271.2	1268.7
137.5°	1282.0	1296.7	1309.0	1321.2	1317.6
140°	1334.5	1344.4	1357.7	1368.7	1362.7
142.5°	1378.6	1387.2	1403.0	1412.7	1406.6
145°	1425.0	1423.7	1444.4	1453.0	1446.9
147.5°	1465.2	1461.5	1482.3	1488.4	1483.6
150°	1504.3	1495.8	1515.3	1522.6	1516.5
152.5°	1537.2	1527.5	1545.8	1553.2	1544.6
155°	1569.0	1558.1	1572.7	1580.0	1570.3
157.5°	1594.6	1584.9	1595.9	1604.5	1594.6
160°	1616.7	1609.3	1616.7	1623.9	1615.4
162.5°	1636.1	1628.9	1634.9	1643.5	1632.5
165°	1653.2	1646.0	1649.6	1658.1	1649.6
167.5°	1666.7	1659.3	1663.1	1671.6	1660.6
170°	1677.7	1670.3	1672.8	1681.3	1670.3
172.5°	1685.0	1677.7	1680.2	1688.7	1677.7
175°	1691.1	1682.5	1685.0	1693.5	1681.3
177.5°	1693.5	1685.0	1686.3	1694.8	1683.8
180°	1687.4	1687.4	1687.4	1687.4	1687.4

TEST NUMBER: P905221

CATALOG NUMBER: DFN2DIP-HX2F0-050D050US835-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	12.15	12.95	13.14	13.95	15.28	8.13	8.93	9.12	9.93	11.26
	3H	13.80	14.51	14.80	15.52	16.87	9.30	10.01	10.31	11.03	12.37
	4H	14.39	15.06	15.41	16.08	17.43	9.74	10.41	10.76	11.43	12.78
	6H	14.79	15.41	15.82	16.43	17.80	10.04	10.66	11.07	11.68	13.05
	8H	14.90	15.49	15.94	16.53	17.89	10.12	10.71	11.16	11.75	13.11
	12H	14.95	15.51	15.99	16.54	17.93	10.16	10.72	11.20	11.75	13.14
4H	2H	12.16	12.83	13.18	13.85	15.20	8.71	9.38	9.73	10.40	11.75
	3H	13.96	14.52	14.99	15.56	16.93	10.03	10.60	11.07	11.64	13.01
	4H	14.63	15.14	15.67	16.18	17.57	10.57	11.08	11.61	12.12	13.51
	6H	15.12	15.56	16.17	16.62	18.00	10.97	11.41	12.02	12.47	13.85
	8H	15.28	15.69	16.33	16.74	18.14	11.08	11.50	12.14	12.55	13.95
	12H	15.36	15.73	16.43	16.79	18.20	11.14	11.51	12.21	12.58	13.98
8H	4H	14.59	15.00	15.64	16.05	17.45	10.83	11.24	11.88	12.29	13.70
	6H	15.13	15.47	16.20	16.56	17.96	11.32	11.66	12.40	12.76	14.16
	8H	15.33	15.62	16.41	16.70	18.12	11.50	11.80	12.58	12.88	14.30
	12H	15.45	15.71	16.53	16.78	18.24	11.60	11.87	12.69	12.94	14.40
12H	4H	14.54	14.91	15.61	15.98	17.38	10.83	11.20	11.90	12.27	13.67
	6H	15.10	15.40	16.18	16.48	17.89	11.37	11.67	12.45	12.74	14.16
	8H	15.30	15.56	16.39	16.64	18.10	11.56	11.82	12.64	12.89	14.35

END OF REPORT