

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: P905165

Luminaire Tested: DFN2DIP-HX2F0-020D060US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905165
REPORT IS A COMBINATION OF REPORTS P900712 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-020D060US835-RLLONL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

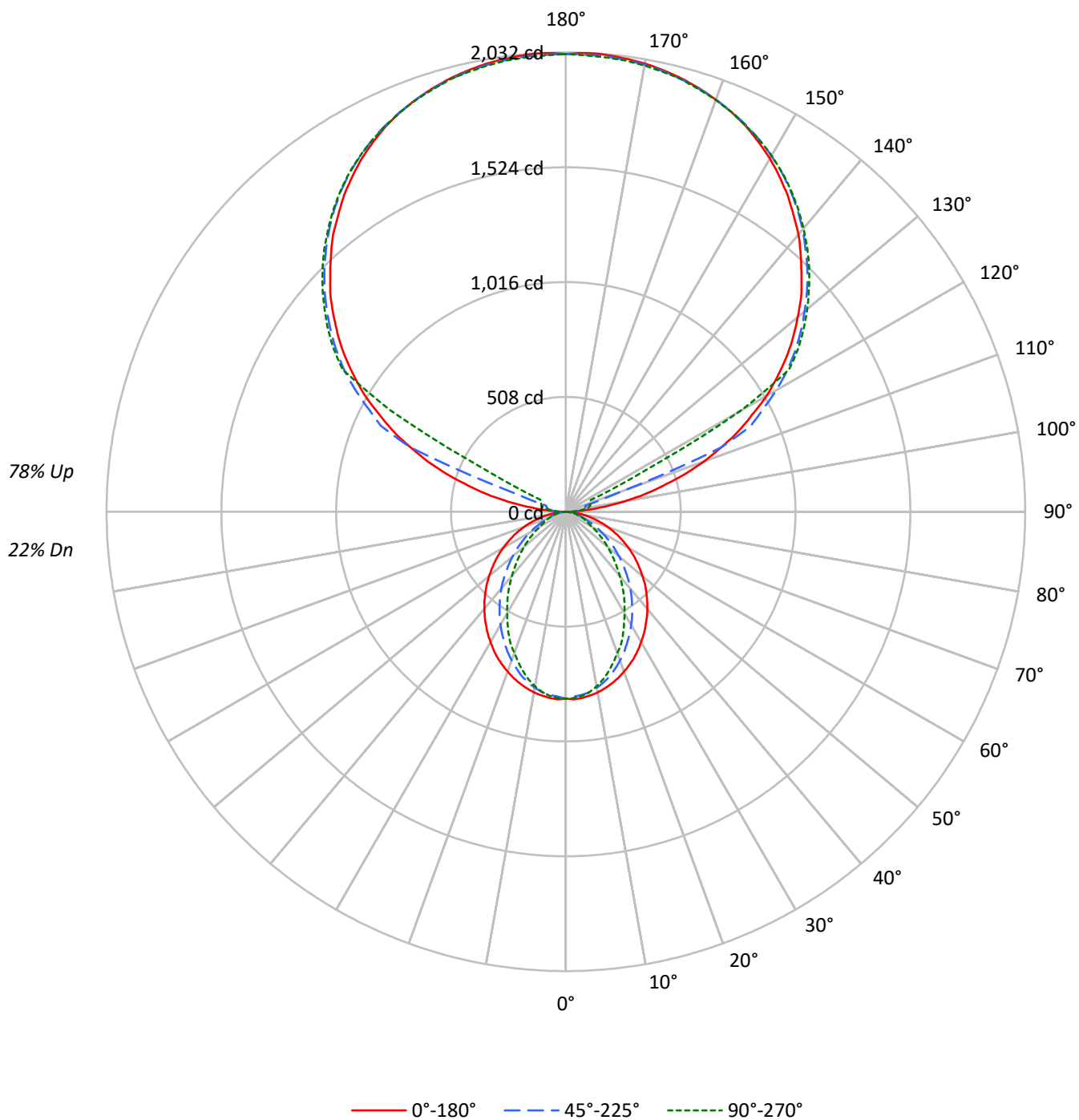
Lumens per Lamp: N/A
Luminaire Lumens: 7640.0 lumens
Efficiency: N/A
Efficacy: 120.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 63.6
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: P905165

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US835-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P905165

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US835-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	89	89	89	89	68	68	68	49	49	49	31	31	31
1	92	88	84	81	81	78	75	72	60	58	56	43	42	41	27	27	26
2	84	77	71	66	74	68	64	60	52	49	47	38	36	34	24	23	22
3	76	68	61	55	68	60	55	50	46	43	39	34	31	29	22	20	19
4	70	60	52	47	62	53	47	42	41	37	34	30	27	25	20	18	17
5	64	53	46	40	57	48	41	36	37	32	29	27	24	22	18	16	15
6	59	48	40	35	52	43	36	31	33	29	25	24	21	19	16	14	13
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12
8	50	39	32	27	45	35	29	24	27	23	20	20	17	15	14	12	10
9	47	35	28	23	42	32	26	21	25	20	17	19	16	13	12	11	9
10	44	32	25	21	39	29	23	19	23	19	16	17	14	12	12	10	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1948	1948	1948
5°	1948	1912	1925
10°	1925	1870	1859
15°	1896	1803	1759
20°	1857	1714	1637
25°	1818	1615	1520
30°	1767	1513	1372
35°	1716	1405	1243
40°	1665	1292	1095
45°	1605	1169	961
50°	1543	1045	831
55°	1478	912	705
60°	1403	775	577
65°	1316	635	516
70°	1210	505	462
75°	1078	436	413
80°	887	354	347
85°	579	218	244

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1851 cd/sqm

TEST NUMBER: P905165

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US835-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	1.0
10°-20°	212.7	2.8
20°-30°	298.6	3.9
30°-40°	325.5	4.3
40°-50°	299.1	3.9
50°-60°	234.9	3.1
60°-70°	152.9	2.0
70°-80°	78.7	1.0
80°-90°	23.7	0.3
90°-100°	66.8	0.9
100°-110°	248.9	3.3
110°-120°	660.2	8.6
120°-130°	1094.9	14.3
130°-140°	1163.0	15.2
140°-150°	1080.9	14.1
150°-160°	869.0	11.4
160°-170°	560.0	7.3
170°-180°	192.7	2.5
0°-30°	588.7	7.7
0°-40°	914.2	12.0
0°-60°	1448.3	19.0
0°-90°	1703.6	22.3
90°-120°	975.8	12.8
90°-150°	4314.7	56.5
90°-180°	5936.0	77.7
0°-180°	7640.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	827	823	813	820	818	78
15°	786	778	752	738	731	222
25°	714	690	640	610	598	328
35°	615	577	511	464	447	385
45°	503	452	374	321	303	388
55°	382	324	243	198	184	342
65°	258	198	130	105	102	256
75°	138	85	60	55	54	146
85°	32	16	14	14	14	37
90°	1	18	29	37	40	7
95°	95	47	57	65	63	113
105°	445	489	89	105	111	476
115°	842	867	904	226	120	829
125°	1191	1210	1238	1248	1253	1062
135°	1474	1498	1511	1525	1522	1139
145°	1710	1708	1733	1744	1736	1069
155°	1883	1870	1887	1896	1884	868
165°	1984	1975	1980	1990	1980	560
175°	2029	2019	2022	2032	2018	193
180°	2025	2025	2025	2025	2025	

TEST NUMBER: P905165

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US835-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	826.6	826.6	826.6	826.6	826.6
2.5°	830.3	826.6	818.3	825.9	824.4
5°	826.6	822.9	813.1	819.9	817.6
7.5°	819.9	815.4	804.9	807.9	804.1
10°	810.9	805.6	790.7	788.4	784.0
12.5°	799.7	792.9	772.7	768.3	760.0
15°	786.2	777.9	752.5	738.3	730.9
17.5°	770.5	758.5	727.1	710.6	698.7
20°	752.5	737.5	700.2	681.5	665.0
22.5°	733.1	715.9	672.5	647.1	635.9
25°	713.7	689.7	640.3	609.7	598.4
27.5°	690.5	665.0	610.4	575.2	558.0
30°	665.8	637.3	577.5	539.4	519.1
32.5°	641.8	607.4	546.1	501.2	482.5
35°	614.9	576.8	511.0	463.8	447.3
37.5°	588.7	547.5	478.0	426.4	407.7
40°	561.0	516.2	443.6	390.5	371.0
42.5°	532.6	484.8	409.2	353.8	335.2
45°	502.7	452.5	374.1	320.9	302.9
47.5°	474.3	421.2	340.4	287.2	270.8
50°	442.9	389.8	307.5	255.8	240.2
52.5°	412.1	356.0	276.0	226.7	212.5
55°	382.2	323.9	243.1	198.3	184.0
57.5°	351.6	291.7	214.0	172.1	160.1
60°	320.2	260.3	183.3	145.2	133.2
62.5°	289.5	229.7	157.1	121.2	115.2
65°	258.1	197.5	130.2	104.8	102.5
67.5°	228.2	167.5	104.8	92.0	89.8
70°	196.7	138.4	86.7	79.3	76.3
72.5°	166.8	111.4	72.5	66.6	65.1
75°	137.6	85.2	59.8	54.6	53.9
77.5°	108.5	60.6	47.1	44.1	42.6
80°	81.5	43.4	35.9	32.9	32.9
82.5°	56.8	29.2	24.7	23.2	23.2
85°	32.1	16.4	14.2	14.2	14.2
87.5°	12.0	6.0	6.0	5.2	5.2
90°	1.4	17.6	29.2	36.7	39.5
92.5°	36.7	30.8	35.1	38.1	39.5
95°	95.2	46.8	57.1	64.6	63.0
97.5°	171.4	51.3	74.6	79.2	80.6
100°	259.4	58.6	83.5	95.2	98.1
102.5°	356.0	353.2	86.5	102.5	107.0
105°	445.4	489.4	89.4	105.4	111.4
107.5°	549.5	586.0	92.4	108.4	114.3
110°	649.2	679.8	256.5	110.0	115.7

TEST NUMBER: P905165

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US835-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	742.9	769.2	744.3	112.7	117.3
115°	842.5	867.4	904.1	225.7	120.2
117.5°	928.9	958.2	983.2	773.6	389.7
120°	1025.7	1047.6	1074.1	1091.6	893.8
122.5°	1107.6	1131.1	1160.5	1169.2	1170.8
125°	1191.2	1210.3	1238.1	1248.4	1252.7
127.5°	1267.4	1287.9	1310.0	1324.6	1326.0
130°	1339.2	1362.7	1378.7	1394.9	1393.5
132.5°	1412.5	1431.6	1447.6	1460.8	1459.4
135°	1474.1	1497.6	1510.6	1525.4	1522.4
137.5°	1538.4	1556.0	1570.8	1585.4	1581.1
140°	1601.4	1613.3	1629.3	1642.5	1635.2
142.5°	1654.3	1664.6	1683.6	1695.2	1687.9
145°	1710.0	1708.4	1733.3	1743.6	1736.3
147.5°	1758.2	1753.8	1778.7	1786.0	1780.3
150°	1805.2	1794.9	1818.4	1827.1	1819.8
152.5°	1844.7	1833.0	1854.9	1863.8	1853.5
155°	1882.8	1869.7	1887.3	1896.0	1884.3
157.5°	1913.6	1901.9	1915.1	1925.4	1913.6
160°	1940.0	1931.1	1940.0	1948.7	1938.5
162.5°	1963.3	1954.6	1961.9	1972.2	1959.0
165°	1983.9	1975.2	1979.5	1989.8	1979.5
167.5°	2000.0	1991.2	1995.7	2006.0	1992.7
170°	2013.3	2004.4	2007.4	2017.6	2004.4
172.5°	2022.0	2013.3	2016.2	2026.5	2013.3
175°	2029.3	2019.0	2022.0	2032.2	2017.6
177.5°	2032.2	2022.0	2023.5	2033.8	2020.6
180°	2024.9	2024.9	2024.9	2024.9	2024.9

TEST NUMBER: P905165

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US835-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	5.90	6.55	7.07	7.70	9.32	1.88	2.53	3.05	3.68	5.30
	3H	7.54	8.12	8.71	9.27	10.91	3.04	3.62	4.22	4.78	6.41
	4H	8.12	8.67	9.30	9.83	11.47	3.47	4.02	4.65	5.18	6.82
	6H	8.51	9.02	9.70	10.18	11.83	3.77	4.27	4.96	5.43	7.08
	8H	8.62	9.10	9.81	10.28	11.92	3.85	4.33	5.04	5.50	7.14
	12H	8.67	9.12	9.86	10.29	11.95	3.88	4.33	5.07	5.50	7.16
4H	2H	5.89	6.44	7.08	7.60	9.24	2.44	2.99	3.63	4.15	5.79
	3H	7.67	8.13	8.87	9.31	10.97	3.76	4.21	4.95	5.40	7.05
	4H	8.34	8.76	9.54	9.93	11.60	4.28	4.70	5.48	5.87	7.54
	6H	8.82	9.18	10.02	10.37	12.03	4.67	5.03	5.87	6.23	7.88
	8H	8.98	9.31	10.18	10.50	12.17	4.79	5.12	5.99	6.31	7.98
	12H	9.05	9.36	10.26	10.55	12.23	4.83	5.14	6.05	6.33	8.01
8H	4H	8.29	8.63	9.49	9.81	11.48	4.53	4.87	5.73	6.05	7.73
	6H	8.82	9.10	10.04	10.33	12.00	5.02	5.30	6.24	6.52	8.20
	8H	9.02	9.26	10.24	10.47	12.16	5.20	5.44	6.42	6.64	8.33
	12H	9.13	9.35	10.36	10.55	12.27	5.29	5.51	6.52	6.71	8.43
12H	4H	8.23	8.54	9.45	9.73	11.41	4.53	4.83	5.74	6.02	7.70
	6H	8.80	9.04	10.02	10.24	11.93	5.06	5.30	6.28	6.51	8.20
	8H	8.99	9.20	10.21	10.40	12.12	5.25	5.46	6.47	6.66	8.38

END OF REPORT