

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: P924427

Luminaire Tested: DFN2DIP-HX3F0-060D060US950-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924427
REPORT IS A COMBINATION OF REPORTS P900769 AND P897645
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-060D060US950-FLLONL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

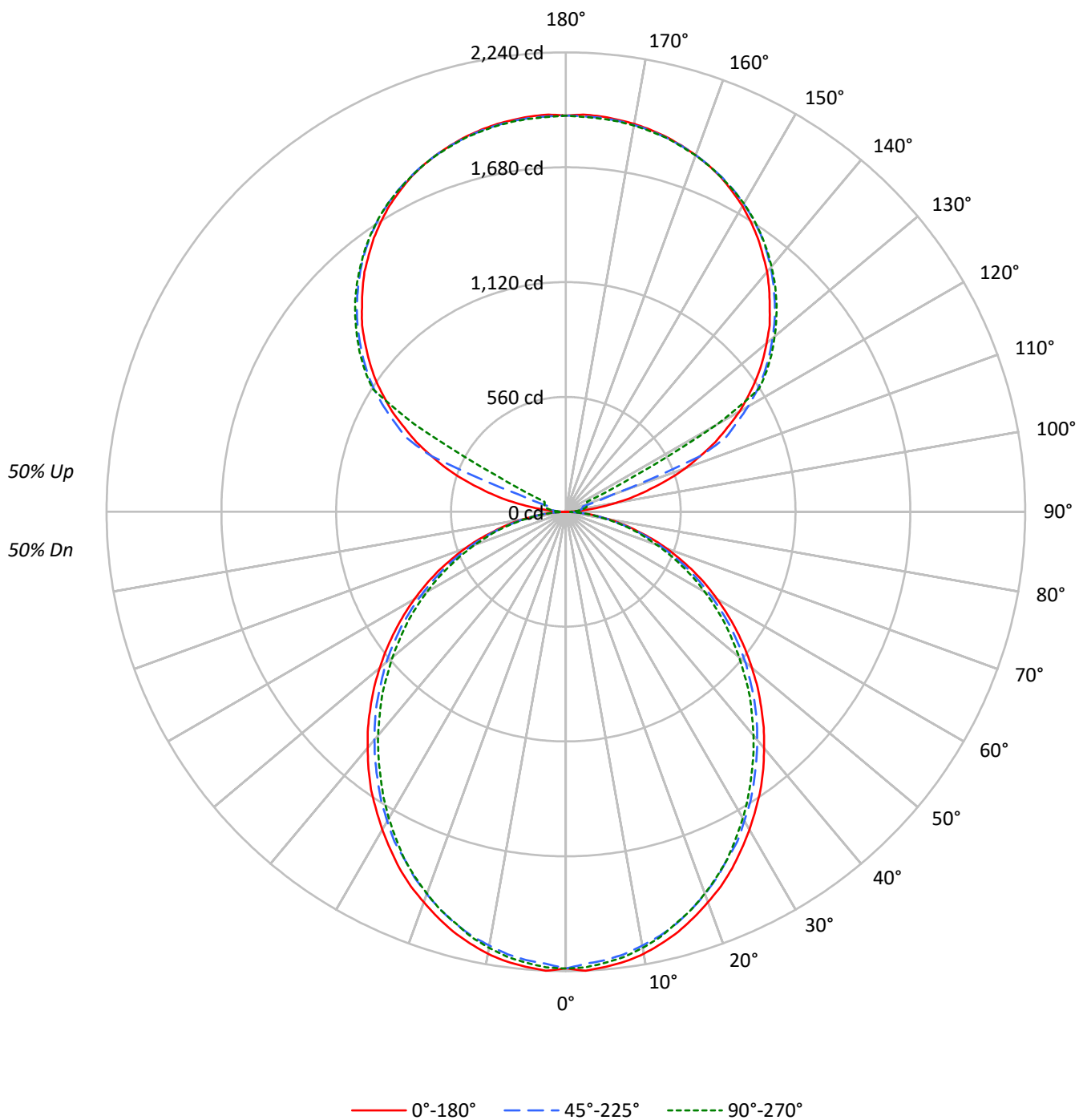
Lumens per Lamp: N/A
Luminaire Lumens: 11333.5 lumens
Efficiency: N/A
Efficacy: 111.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 102
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P924427

CATALOG NUMBER: DFN2DIP-HX3F0-060D060US950-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P924427

CATALOG NUMBER: DFN2DIP-HX3F0-060D060US950-FLLONL

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	83	83	83	69	69	69	56	56	56
1	98	93	90	86	90	86	83	80	73	71	68	61	59	58	50	48	47
2	89	82	75	70	82	76	70	66	64	60	57	53	51	48	44	42	40
3	81	72	64	59	75	66	60	55	56	52	48	47	44	41	39	36	34
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	29
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	26
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	23
7	58	46	38	32	53	43	36	30	37	31	27	31	27	23	26	23	20
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	19	16
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2580	2580	2580
5°	2583	2542	2560
10°	2561	2506	2524
15°	2522	2463	2468
20°	2470	2404	2411
25°	2418	2334	2346
30°	2354	2268	2263
35°	2292	2191	2175
40°	2217	2113	2092
45°	2142	2035	2006
50°	2059	1953	1907
55°	1973	1858	1816
60°	1875	1745	1712
65°	1769	1628	1588
70°	1633	1485	1455
75°	1445	1315	1330
80°	1219	1096	1095
85°	864	725	711

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2142 cd/sqm

TEST NUMBER: P924427

CATALOG NUMBER: DFN2DIP-HX3F0-060D060US950-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.6	1.8
10°-20°	589.8	5.2
20°-30°	866.8	7.6
30°-40°	1006.7	8.9
40°-50°	1005.5	8.9
50°-60°	876.7	7.7
60°-70°	648.1	5.7
70°-80°	366.7	3.2
80°-90°	100.2	0.9
90°-100°	63.7	0.6
100°-110°	237.5	2.1
110°-120°	629.8	5.6
120°-130°	1044.5	9.2
130°-140°	1109.5	9.8
140°-150°	1031.2	9.1
150°-160°	829.1	7.3
160°-170°	534.2	4.7
170°-180°	183.9	1.6
0°-30°	1666.2	14.7
0°-40°	2673.0	23.6
0°-60°	4555.2	40.2
0°-90°	5670.2	50.0
90°-120°	930.9	8.2
90°-150°	4116.2	36.3
90°-180°	5663.0	50.0
0°-180°	11333.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2227	2227	2227	2227	2227	
5°	2227	2219	2195	2212	2208	211
15°	2120	2108	2080	2088	2078	597
25°	1919	1902	1866	1870	1866	883
35°	1656	1634	1600	1587	1576	1034
45°	1347	1332	1300	1276	1268	1040
55°	1020	1007	981	955	945	912
65°	688	675	653	634	623	680
75°	360	356	345	332	336	384
85°	88	86	84	77	75	98
90°	1	17	28	35	38	10
95°	91	45	54	62	60	108
105°	425	467	85	101	106	454
115°	804	828	862	215	115	791
125°	1136	1155	1181	1191	1195	1014
135°	1406	1429	1441	1455	1452	1086
145°	1631	1630	1654	1663	1656	1020
155°	1796	1784	1800	1809	1798	828
165°	1893	1884	1888	1898	1888	535
175°	1936	1926	1929	1939	1925	184
180°	1932	1932	1932	1932	1932	

TEST NUMBER: P924427

CATALOG NUMBER: DFN2DIP-HX3F0-060D060US950-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2227.2	2227.2	2227.2	2227.2	2227.2
2.5°	2240.2	2229.5	2205.8	2227.2	2223.1
5°	2227.2	2218.8	2195.2	2212.2	2208.1
7.5°	2212.2	2199.5	2175.9	2193.2	2188.9
10°	2188.9	2173.9	2148.1	2165.2	2158.8
12.5°	2156.6	2143.8	2118.2	2128.9	2124.6
15°	2120.2	2107.5	2079.5	2088.2	2077.5
17.5°	2075.2	2062.5	2034.6	2045.2	2034.6
20°	2025.9	2013.2	1983.2	1989.6	1981.2
22.5°	1976.9	1957.5	1929.6	1929.6	1925.3
25°	1918.9	1901.9	1865.5	1869.6	1865.5
27.5°	1854.6	1839.6	1811.8	1805.5	1794.9
30°	1790.6	1773.2	1741.2	1734.8	1726.2
32.5°	1721.9	1709.2	1674.8	1661.9	1653.3
35°	1655.6	1634.2	1599.9	1586.9	1576.2
37.5°	1580.6	1561.2	1527.0	1511.9	1501.2
40°	1503.5	1486.2	1452.0	1432.9	1424.2
42.5°	1428.5	1411.3	1377.2	1355.6	1342.9
45°	1347.2	1332.2	1299.9	1276.5	1267.9
47.5°	1267.9	1252.9	1218.6	1195.0	1182.2
50°	1184.3	1173.6	1143.7	1113.6	1102.9
52.5°	1102.9	1087.9	1060.2	1036.6	1021.6
55°	1019.5	1006.6	980.9	955.2	944.6
57.5°	936.0	925.3	897.3	871.7	863.0
60°	852.3	843.9	814.0	790.3	783.9
62.5°	770.9	755.9	734.6	713.2	704.6
65°	687.5	674.7	653.3	633.9	623.2
67.5°	601.9	591.0	571.9	556.9	548.3
70°	522.6	514.0	494.6	479.7	471.3
72.5°	441.2	432.6	422.0	407.0	400.6
75°	359.7	355.7	344.7	332.0	336.3
77.5°	287.0	278.4	274.0	267.7	261.3
80°	214.3	212.0	207.7	201.3	197.0
82.5°	145.7	145.7	143.6	135.0	135.0
85°	87.7	85.7	83.6	77.0	75.0
87.5°	38.6	34.3	30.0	23.7	21.4
90°	1.3	16.8	27.9	35.0	37.7
92.5°	35.0	29.4	33.5	36.3	37.7
95°	90.8	44.6	54.5	61.6	60.1
97.5°	163.5	48.9	71.2	75.6	76.9
100°	247.5	55.9	79.7	90.8	93.6
102.5°	339.6	337.0	82.5	97.8	102.1
105°	424.9	466.9	85.3	100.6	106.3
107.5°	524.2	559.0	88.1	103.4	109.0
110°	619.3	648.5	244.7	104.9	110.4

TEST NUMBER: P924427

CATALOG NUMBER: DFN2DIP-HX3F0-060D060US950-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	708.7	733.8	710.1	107.5	111.9
115°	803.7	827.5	862.5	215.3	114.7
117.5°	886.2	914.1	938.0	738.0	371.8
120°	978.5	999.4	1024.7	1041.4	852.7
122.5°	1056.7	1079.1	1107.1	1115.4	1116.9
125°	1136.4	1154.6	1181.1	1191.0	1195.1
127.5°	1209.1	1228.7	1249.7	1263.7	1265.0
130°	1277.6	1300.0	1315.3	1330.7	1329.4
132.5°	1347.5	1365.7	1381.0	1393.6	1392.3
135°	1406.3	1428.7	1441.1	1455.2	1452.4
137.5°	1467.6	1484.4	1498.5	1512.5	1508.4
140°	1527.7	1539.1	1554.4	1566.9	1560.0
142.5°	1578.2	1588.0	1606.2	1617.2	1610.3
145°	1631.3	1629.8	1653.6	1663.4	1656.4
147.5°	1677.3	1673.1	1696.9	1703.8	1698.4
150°	1722.2	1712.3	1734.8	1743.1	1736.1
152.5°	1759.8	1748.7	1769.6	1778.1	1768.2
155°	1796.2	1783.7	1800.5	1808.8	1797.6
157.5°	1825.6	1814.4	1827.0	1836.8	1825.6
160°	1850.8	1842.3	1850.8	1859.1	1849.3
162.5°	1873.0	1864.7	1871.7	1881.5	1868.9
165°	1892.6	1884.3	1888.4	1898.3	1888.4
167.5°	1908.0	1899.6	1903.9	1913.7	1901.0
170°	1920.7	1912.2	1915.1	1924.8	1912.2
172.5°	1929.0	1920.7	1923.5	1933.3	1920.7
175°	1936.0	1926.1	1929.0	1938.7	1924.8
177.5°	1938.7	1929.0	1930.4	1940.2	1927.7
180°	1931.8	1931.8	1931.8	1931.8	1931.8

TEST NUMBER: P924427

CATALOG NUMBER: DFN2DIP-HX3F0-060D060US950-FLLONL

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	10.52	11.39	11.48	12.36	13.63	10.10	10.96	11.05	11.93	13.20
	3H	12.18	12.95	13.15	13.93	15.22	11.71	12.48	12.68	13.46	14.76
	4H	12.76	13.49	13.74	14.48	15.78	12.29	13.02	13.27	14.01	15.31
	6H	13.15	13.83	14.15	14.82	16.13	12.68	13.36	13.68	14.35	15.66
	8H	13.26	13.90	14.25	14.90	16.22	12.79	13.43	13.78	14.43	15.75
	12H	13.30	13.91	14.30	14.91	16.25	12.83	13.44	13.83	14.44	15.77
4H	2H	10.98	11.71	11.97	12.70	14.00	10.64	11.37	11.63	12.36	13.66
	3H	12.84	13.45	13.84	14.47	15.78	12.45	13.06	13.45	14.08	15.39
	4H	13.55	14.11	14.55	15.11	16.45	13.15	13.71	14.15	14.71	16.05
	6H	14.06	14.54	15.07	15.57	16.90	13.65	14.13	14.67	15.16	16.50
	8H	14.20	14.65	15.22	15.68	17.03	13.80	14.24	14.81	15.27	16.62
	12H	14.27	14.68	15.31	15.72	17.07	13.86	14.26	14.89	15.30	16.66
8H	4H	13.74	14.19	14.76	15.21	16.57	13.38	13.83	14.40	14.86	16.21
	6H	14.36	14.74	15.41	15.80	17.15	14.01	14.38	15.05	15.44	16.79
	8H	14.58	14.91	15.63	15.96	17.33	14.22	14.54	15.27	15.59	16.96
	12H	14.71	14.99	15.76	16.04	17.45	14.33	14.61	15.38	15.66	17.07
12H	4H	13.73	14.13	14.76	15.17	16.53	13.38	13.78	14.41	14.82	16.18
	6H	14.39	14.72	15.44	15.77	17.14	14.04	14.37	15.09	15.42	16.79
	8H	14.63	14.92	15.68	15.96	17.37	14.28	14.56	15.33	15.61	17.02

END OF REPORT