

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: P916692

Luminaire Tested: DFN2DIP-PN3F0-060D080US930-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916692
REPORT IS A COMBINATION OF REPORTS P899587 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-060D080US930-FLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

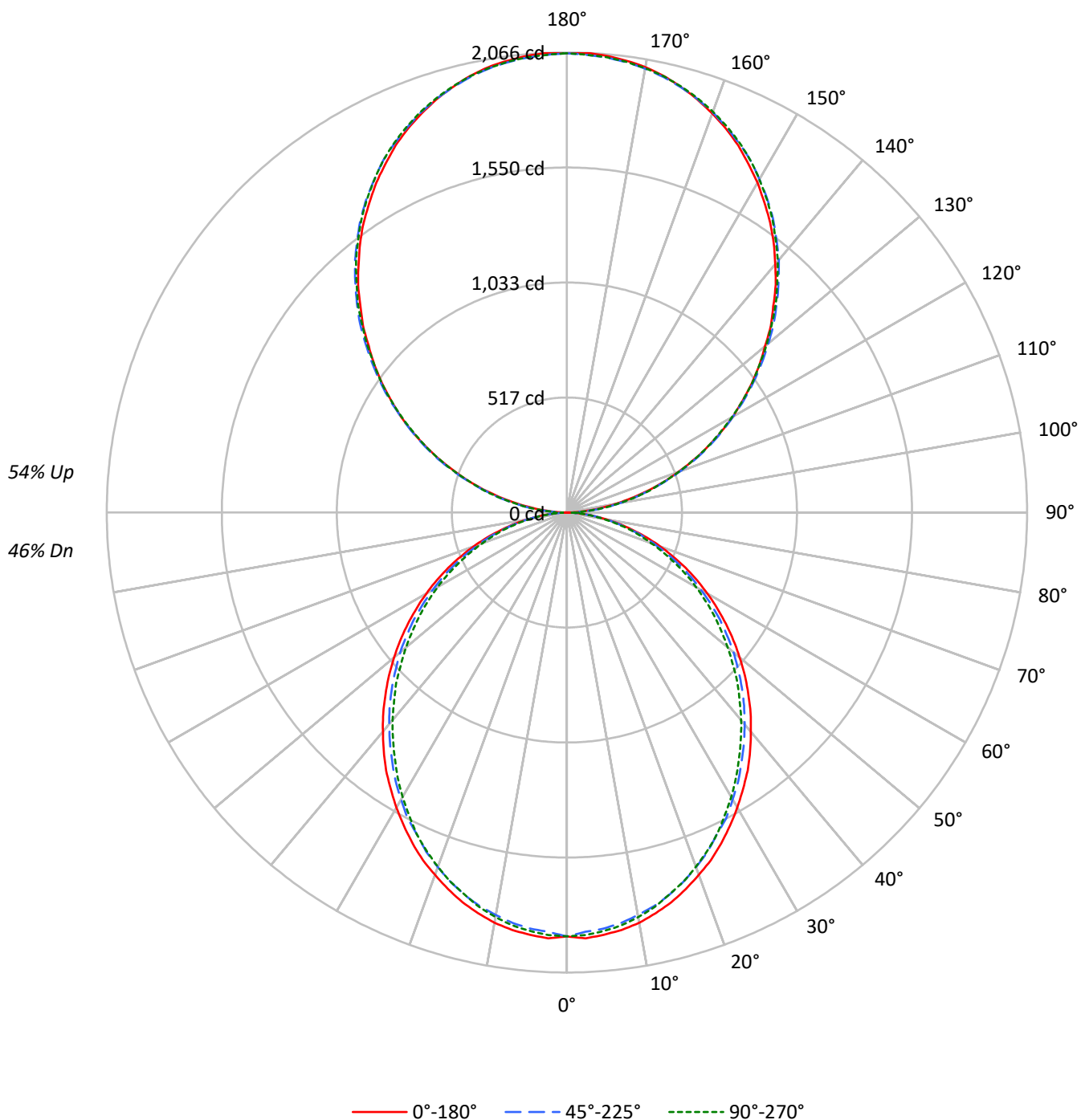
Lumens per Lamp: N/A
Luminaire Lumens: 10615.2 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 118.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P916692

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US930-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P916692

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US930-FLLFL

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	97	97	97	97	81	81	81	66	66	66	52	52	52
1	97	93	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44
2	88	81	75	70	81	74	69	65	62	58	55	51	48	46	41	39	37
3	80	71	64	58	73	65	59	54	55	50	46	45	42	39	36	34	32
4	74	63	55	49	67	58	51	46	49	43	39	40	36	33	32	29	27
5	67	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24
6	62	50	42	36	57	46	39	34	39	34	30	33	28	25	26	23	21
7	57	45	37	32	53	42	35	30	36	30	26	30	25	22	24	21	19
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17
9	50	37	30	25	45	35	28	24	30	24	21	25	21	18	20	17	15
10	46	34	27	22	42	32	25	21	27	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2225	2225	2225
5°	2227	2192	2208
10°	2208	2161	2177
15°	2174	2124	2129
20°	2129	2073	2081
25°	2084	2012	2024
30°	2028	1956	1953
35°	1975	1890	1878
40°	1909	1822	1806
45°	1844	1755	1733
50°	1773	1684	1648
55°	1698	1602	1569
60°	1613	1505	1480
65°	1521	1404	1374
70°	1403	1281	1260
75°	1240	1133	1153
80°	1043	945	951
85°	735	625	620

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2044 cd/sqm

TEST NUMBER: P916692

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US930-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.1	1.7
10°-20°	504.1	4.7
20°-30°	740.8	7.0
30°-40°	860.4	8.1
40°-50°	859.3	8.1
50°-60°	749.3	7.1
60°-70°	553.9	5.2
70°-80°	313.4	3.0
80°-90°	88.6	0.8
90°-100°	127.6	1.2
100°-110°	405.6	3.8
110°-120°	694.1	6.5
120°-130°	912.8	8.6
130°-140°	1024.6	9.7
140°-150°	1004.7	9.5
150°-160°	842.8	7.9
160°-170°	558.9	5.3
170°-180°	195.4	1.8
0°-30°	1424.0	13.4
0°-40°	2284.3	21.5
0°-60°	3892.9	36.7
0°-90°	4848.7	45.7
90°-120°	1227.3	11.6
90°-150°	4169.4	39.3
90°-180°	5766.0	54.3
0°-180°	10615.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1903	1903	1903	1903	1903	
5°	1903	1896	1876	1891	1887	181
15°	1812	1801	1777	1785	1776	510
25°	1640	1625	1594	1598	1594	755
35°	1415	1397	1367	1356	1347	884
45°	1151	1138	1111	1091	1084	889
55°	871	860	838	816	807	779
65°	588	577	558	542	533	581
75°	307	304	295	284	287	328
85°	75	73	71	66	64	84
90°	2	22	61	57	59	10
95°	91	108	111	111	108	101
105°	374	379	383	386	386	395
115°	696	706	703	702	696	689
125°	1013	1029	1024	1018	1016	905
135°	1310	1330	1333	1332	1326	1013
145°	1591	1603	1613	1615	1608	994
155°	1819	1824	1830	1838	1833	837
165°	1979	1977	1977	1989	1981	558
175°	2059	2054	2050	2063	2052	196
180°	2063	2063	2063	2063	2063	

TEST NUMBER: P916692

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US930-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1903.4	1903.4	1903.4	1903.4	1903.4
2.5°	1914.5	1905.4	1885.1	1903.4	1899.9
5°	1903.4	1896.2	1876.0	1890.6	1887.1
7.5°	1890.6	1879.8	1859.5	1874.3	1870.6
10°	1870.6	1857.8	1835.8	1850.4	1844.9
12.5°	1843.1	1832.1	1810.2	1819.3	1815.7
15°	1811.9	1801.1	1777.2	1784.6	1775.5
17.5°	1773.5	1762.7	1738.8	1747.8	1738.8
20°	1731.4	1720.5	1694.8	1700.3	1693.1
22.5°	1689.5	1672.9	1649.0	1649.0	1645.4
25°	1639.9	1625.4	1594.2	1597.7	1594.2
27.5°	1584.9	1572.1	1548.4	1543.0	1533.9
30°	1530.2	1515.4	1488.1	1482.6	1475.2
32.5°	1471.5	1460.7	1431.3	1420.2	1412.9
35°	1414.9	1396.6	1367.3	1356.2	1347.0
37.5°	1350.8	1334.2	1305.0	1292.1	1283.0
40°	1284.9	1270.2	1240.9	1224.6	1217.2
42.5°	1220.8	1206.1	1177.0	1158.5	1147.6
45°	1151.4	1138.5	1110.9	1091.0	1083.5
47.5°	1083.5	1070.7	1041.5	1021.2	1010.3
50°	1012.1	1003.0	977.4	951.7	942.6
52.5°	942.6	929.8	906.0	885.9	873.1
55°	871.3	860.2	838.3	816.4	807.2
57.5°	799.9	790.8	766.9	744.9	737.5
60°	728.4	721.2	695.6	675.4	669.9
62.5°	658.8	646.0	627.8	609.5	602.2
65°	587.6	576.6	558.3	541.8	532.6
67.5°	514.4	505.1	488.8	476.0	468.6
70°	446.6	439.3	422.7	409.9	402.8
72.5°	377.1	369.7	360.6	347.8	342.3
75°	307.4	303.9	294.6	283.7	287.4
77.5°	245.2	237.9	234.2	228.8	223.3
80°	183.1	181.2	177.5	172.0	168.4
82.5°	124.5	124.5	122.7	115.4	115.4
85°	74.9	73.2	71.4	65.8	64.1
87.5°	33.0	29.4	25.6	20.2	18.3
90°	1.9	22.4	61.0	57.2	59.1
92.5°	38.6	52.3	54.1	55.9	55.9
95°	90.8	108.2	111.3	111.3	108.2
97.5°	151.2	167.3	174.1	174.1	174.1
100°	220.8	235.1	240.0	240.0	238.1
102.5°	294.2	304.8	311.5	313.4	311.5
105°	374.4	379.4	383.1	386.2	386.2
107.5°	454.0	461.5	461.5	462.7	454.0
110°	531.1	541.0	541.0	541.0	536.1

TEST NUMBER: P916692

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US930-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	614.4	625.0	623.1	618.2	614.4
115°	696.5	706.5	703.4	701.5	696.5
117.5°	778.0	791.7	782.9	778.0	773.0
120°	860.1	873.8	860.1	860.1	854.4
122.5°	934.7	952.1	943.4	938.4	934.7
125°	1013.0	1028.6	1023.6	1018.0	1016.2
127.5°	1089.6	1108.8	1102.0	1094.5	1089.6
130°	1161.1	1183.4	1180.3	1176.6	1169.8
132.5°	1241.3	1258.7	1260.0	1251.2	1246.3
135°	1310.3	1329.6	1333.3	1331.5	1326.5
137.5°	1387.4	1403.0	1406.1	1404.8	1397.3
140°	1455.2	1470.7	1479.4	1479.4	1472.6
142.5°	1524.9	1540.4	1545.4	1547.3	1540.4
145°	1590.8	1603.2	1613.1	1615.0	1608.2
147.5°	1649.8	1665.4	1672.8	1676.0	1669.2
150°	1710.8	1721.3	1728.2	1733.8	1728.2
152.5°	1764.9	1775.5	1784.2	1791.0	1784.2
155°	1819.0	1824.0	1829.6	1838.3	1832.7
157.5°	1865.6	1869.4	1872.5	1884.9	1876.2
160°	1907.3	1911.1	1912.9	1923.5	1916.0
162.5°	1945.9	1945.9	1947.7	1959.6	1950.8
165°	1978.8	1976.9	1976.9	1989.4	1980.7
167.5°	2008.7	2003.1	2003.1	2015.5	2006.8
170°	2031.1	2026.1	2024.2	2036.7	2026.1
172.5°	2046.6	2041.7	2039.8	2052.2	2041.7
175°	2059.0	2054.1	2050.3	2062.8	2052.2
177.5°	2065.9	2060.9	2057.2	2067.8	2057.2
180°	2062.8	2062.8	2062.8	2062.8	2062.8

TEST NUMBER: P916692

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US930-FLLFLL

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	9.60	10.42	10.59	11.43	12.76	9.16	9.98	10.15	10.99	12.32
	3H	11.25	11.99	12.25	13.00	14.35	10.77	11.50	11.77	12.52	13.87
	4H	11.83	12.53	12.85	13.55	14.91	11.34	12.04	12.36	13.06	14.42
	6H	12.22	12.87	13.25	13.89	15.26	11.73	12.38	12.76	13.40	14.77
	8H	12.32	12.94	13.36	13.98	15.35	11.83	12.45	12.87	13.49	14.85
	12H	12.37	12.95	13.41	13.98	15.38	11.87	12.46	12.91	13.49	14.88
4H	2H	10.05	10.75	11.07	11.77	13.13	9.70	10.40	10.72	11.42	12.78
	3H	11.91	12.49	12.94	13.53	14.91	11.50	12.09	12.54	13.13	14.51
	4H	12.61	13.15	13.65	14.19	15.58	12.20	12.73	13.24	13.77	15.17
	6H	13.12	13.58	14.17	14.64	16.03	12.70	13.16	13.75	14.22	15.61
	8H	13.27	13.70	14.32	14.75	16.16	12.84	13.27	13.89	14.32	15.73
	12H	13.33	13.72	14.40	14.79	16.20	12.90	13.29	13.96	14.35	15.77
8H	4H	12.80	13.23	13.85	14.29	15.69	12.43	12.86	13.48	13.92	15.32
	6H	13.42	13.78	14.50	14.88	16.28	13.05	13.40	14.12	14.50	15.90
	8H	13.64	13.95	14.72	15.03	16.46	13.26	13.57	14.34	14.65	16.07
	12H	13.77	14.04	14.85	15.12	16.58	13.37	13.64	14.45	14.72	16.18
12H	4H	12.79	13.17	13.85	14.24	15.65	12.42	12.81	13.49	13.88	15.29
	6H	13.45	13.77	14.53	14.84	16.27	13.09	13.40	14.17	14.48	15.90
	8H	13.69	13.96	14.77	15.04	16.50	13.32	13.59	14.40	14.67	16.13