

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: P913989

Luminaire Tested: DFN2DIP-PN3F0-070D070US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913989
REPORT IS A COMBINATION OF REPORTS P901095 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D070US927-FLLONL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

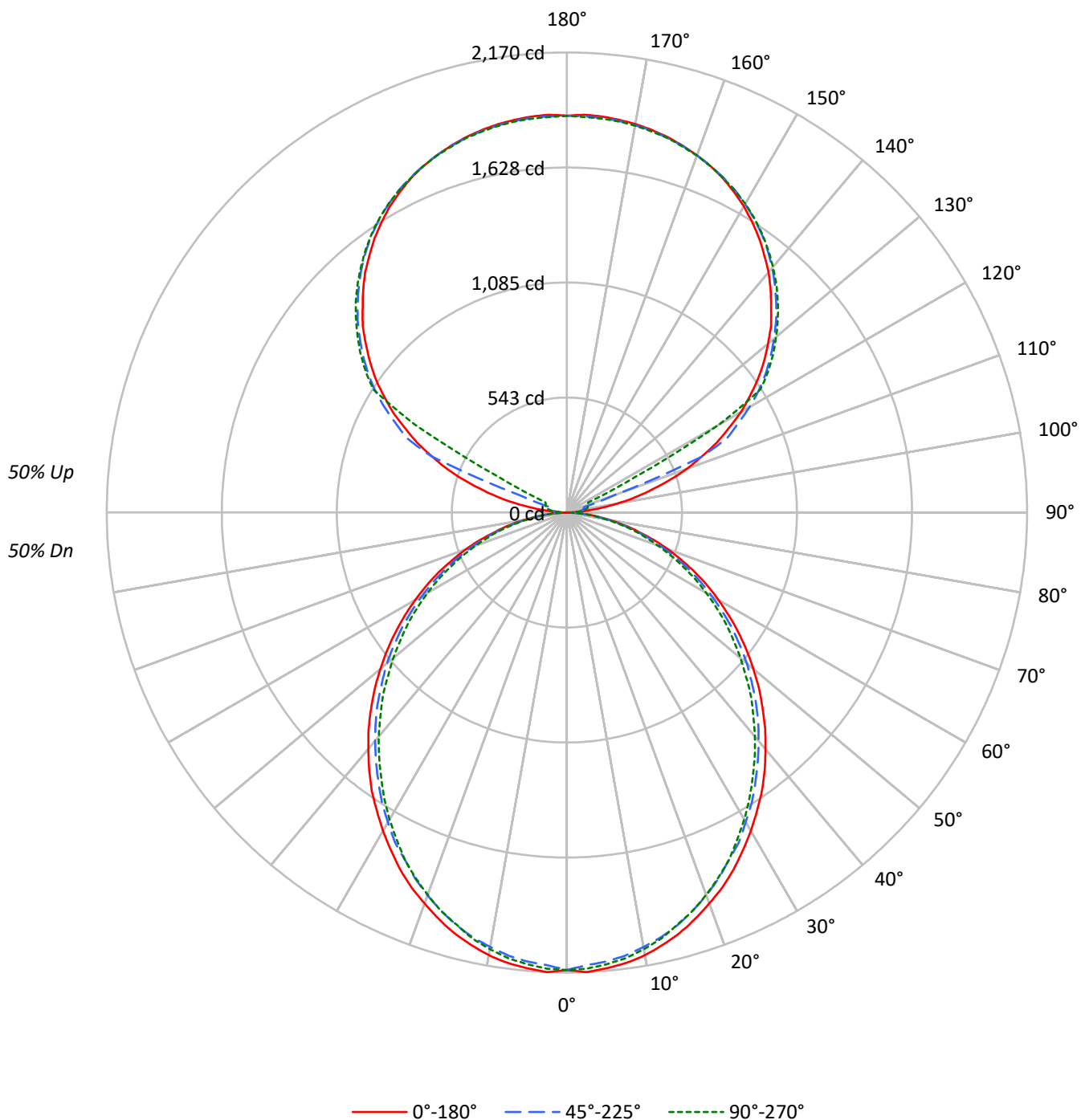
Lumens per Lamp: N/A
Luminaire Lumens: 10979.7 lumens
Efficiency: N/A
Efficacy: 88.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 123.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913989

CATALOG NUMBER: DFN2DIP-PN3F0-070D070US927-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P913989

CATALOG NUMBER: DFN2DIP-PN3F0-070D070US927-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°	2522	2522	2522
5°	2525	2485	2503
10°	2503	2450	2468
15°	2465	2408	2414
20°	2413	2350	2359
25°	2362	2282	2295
30°	2299	2217	2214
35°	2238	2142	2129
40°	2164	2066	2047
45°	2090	1989	1964
50°	2010	1909	1868
55°	1925	1816	1779
60°	1829	1706	1677
65°	1724	1592	1557
70°	1590	1452	1428
75°	1405	1285	1307
80°	1182	1071	1078
85°	834	709	702

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2090 cd/sqm

TEST NUMBER: P913989

CATALOG NUMBER: DFN2DIP-PN3F0-070D070US927-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.1	1.8
10°-20°	571.4	5.2
20°-30°	839.7	7.6
30°-40°	975.3	8.9
40°-50°	974.1	8.9
50°-60°	849.4	7.7
60°-70°	627.9	5.7
70°-80°	355.2	3.2
80°-90°	97.1	0.9
90°-100°	61.7	0.6
100°-110°	230.0	2.1
110°-120°	610.1	5.6
120°-130°	1011.9	9.2
130°-140°	1074.9	9.8
140°-150°	999.0	9.1
150°-160°	803.2	7.3
160°-170°	517.5	4.7
170°-180°	178.1	1.6
0°-30°	1614.2	14.7
0°-40°	2589.5	23.6
0°-60°	4412.9	40.2
0°-90°	5493.1	50.0
90°-120°	901.9	8.2
90°-150°	3987.7	36.3
90°-180°	5487.0	50.0
0°-180°	10979.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2158	2158	2158	2158	2158	
5°	2158	2150	2127	2143	2139	205
15°	2054	2042	2015	2023	2013	578
25°	1859	1842	1807	1811	1807	855
35°	1604	1583	1550	1537	1527	1002
45°	1305	1291	1259	1237	1228	1007
55°	988	975	950	925	915	883
65°	666	654	633	614	604	659
75°	348	344	334	322	326	372
85°	85	83	81	75	73	95
90°	1	16	27	34	36	10
95°	88	43	53	60	58	104
105°	412	452	83	97	103	440
115°	779	802	836	209	111	767
125°	1101	1119	1144	1154	1158	982
135°	1362	1384	1396	1410	1407	1052
145°	1580	1579	1602	1612	1605	988
155°	1740	1728	1744	1752	1742	802
165°	1834	1826	1830	1839	1830	518
175°	1876	1866	1869	1878	1865	178
180°	1871	1871	1871	1871	1871	

TEST NUMBER: P913989

CATALOG NUMBER: DFN2DIP-PN3F0-070D070US927-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2157.7	2157.7	2157.7	2157.7	2157.7
2.5°	2170.3	2159.9	2137.0	2157.7	2153.7
5°	2157.7	2149.6	2126.7	2143.2	2139.2
7.5°	2143.2	2130.8	2107.9	2124.7	2120.5
10°	2120.5	2105.9	2081.1	2097.6	2091.4
12.5°	2089.2	2076.9	2052.1	2062.4	2058.2
15°	2054.0	2041.7	2014.6	2023.0	2012.6
17.5°	2010.4	1998.1	1971.0	1981.4	1971.0
20°	1962.6	1950.4	1921.3	1927.5	1919.3
22.5°	1915.1	1896.4	1869.3	1869.3	1865.1
25°	1859.0	1842.5	1807.3	1811.2	1807.3
27.5°	1796.7	1782.2	1755.3	1749.1	1738.8
30°	1734.6	1717.8	1686.9	1680.7	1672.3
32.5°	1668.1	1655.8	1622.5	1610.0	1601.6
35°	1603.8	1583.2	1549.9	1537.4	1527.0
37.5°	1531.2	1512.5	1479.2	1464.7	1454.4
40°	1456.6	1439.9	1406.6	1388.1	1379.7
42.5°	1383.9	1367.2	1334.2	1313.3	1300.9
45°	1305.1	1290.6	1259.3	1236.7	1228.3
47.5°	1228.3	1213.8	1180.5	1157.6	1145.3
50°	1147.3	1136.9	1107.9	1078.9	1068.5
52.5°	1068.5	1054.0	1027.1	1004.2	989.7
55°	987.7	975.2	950.3	925.4	915.0
57.5°	906.7	896.4	869.3	844.4	836.1
60°	825.7	817.5	788.5	765.6	759.5
62.5°	746.9	732.4	711.7	691.0	682.6
65°	666.1	653.5	632.9	614.2	603.8
67.5°	583.1	572.6	554.1	539.6	531.2
70°	506.3	498.0	479.2	464.7	456.5
72.5°	427.5	419.1	408.8	394.3	388.1
75°	348.5	344.5	333.9	321.6	325.8
77.5°	278.1	269.7	265.5	259.3	253.2
80°	207.6	205.4	201.2	195.0	190.8
82.5°	141.1	141.1	139.1	130.8	130.8
85°	85.0	83.0	81.0	74.6	72.6
87.5°	37.4	33.3	29.1	22.9	20.7
90°	1.3	16.2	27.0	33.9	36.5
92.5°	33.9	28.4	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	74.5
100°	239.8	54.2	77.2	87.9	90.7
102.5°	329.0	326.5	79.9	94.7	98.9
105°	411.7	452.3	82.6	97.4	102.9
107.5°	507.8	541.6	85.4	100.2	105.7
110°	600.0	628.3	237.0	101.6	106.9



TEST NUMBER: P913989

CATALOG NUMBER: DFN2DIP-PN3F0-070D070US927-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	686.7	710.9	687.9	104.2	108.4
115°	778.6	801.6	835.5	208.6	111.1
117.5°	858.6	885.6	908.7	714.9	360.2
120°	947.9	968.2	992.7	1008.9	826.1
122.5°	1023.7	1045.4	1072.6	1080.6	1082.0
125°	1100.9	1118.6	1144.3	1153.8	1157.8
127.5°	1171.3	1190.3	1210.7	1224.2	1225.5
130°	1237.7	1259.4	1274.2	1289.2	1287.9
132.5°	1305.4	1323.1	1337.9	1350.1	1348.8
135°	1362.3	1384.0	1396.1	1409.8	1407.1
137.5°	1421.8	1438.1	1451.8	1465.3	1461.3
140°	1480.0	1491.0	1505.8	1518.0	1511.2
142.5°	1528.9	1538.4	1555.9	1566.7	1560.0
145°	1580.4	1579.0	1601.9	1611.5	1604.7
147.5°	1624.9	1621.0	1643.9	1650.7	1645.4
150°	1668.3	1658.9	1680.6	1688.6	1681.9
152.5°	1704.9	1694.1	1714.4	1722.5	1713.1
155°	1740.1	1728.0	1744.2	1752.3	1741.5
157.5°	1768.5	1757.8	1770.0	1779.5	1768.5
160°	1793.0	1784.8	1793.0	1801.0	1791.5
162.5°	1814.6	1806.5	1813.2	1822.7	1810.5
165°	1833.5	1825.5	1829.5	1839.0	1829.5
167.5°	1848.5	1840.2	1844.4	1853.9	1841.7
170°	1860.7	1852.5	1855.2	1864.7	1852.5
172.5°	1868.8	1860.7	1863.4	1872.9	1860.7
175°	1875.5	1866.0	1868.8	1878.2	1864.7
177.5°	1878.2	1868.8	1870.2	1879.7	1867.4
180°	1871.4	1871.4	1871.4	1871.4	1871.4

TEST NUMBER: P913989

CATALOG NUMBER: DFN2DIP-PN3F0-070D070US927-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	10.45	11.31	11.41	12.28	13.56	10.01	10.87	10.97	11.85	13.12
	3H	12.11	12.88	13.07	13.86	15.15	11.62	12.39	12.59	13.38	14.67
	4H	12.69	13.42	13.67	14.41	15.71	12.20	12.93	13.19	13.92	15.22
	6H	13.08	13.76	14.08	14.75	16.06	12.59	13.27	13.59	14.26	15.57
	8H	13.19	13.83	14.19	14.84	16.15	12.70	13.34	13.69	14.34	15.66
	12H	13.23	13.84	14.24	14.84	16.18	12.74	13.35	13.74	14.35	15.68
4H	2H	10.91	11.64	11.90	12.63	13.93	10.56	11.29	11.55	12.27	13.58
	3H	12.77	13.38	13.76	14.39	15.71	12.37	12.98	13.36	13.99	15.31
	4H	13.48	14.04	14.48	15.04	16.38	13.06	13.62	14.07	14.63	15.96
	6H	13.99	14.47	15.00	15.50	16.83	13.56	14.04	14.58	15.07	16.41
	8H	14.13	14.58	15.15	15.61	16.96	13.71	14.16	14.72	15.18	16.53
	12H	14.20	14.61	15.24	15.65	17.00	13.77	14.17	14.80	15.21	16.57
8H	4H	13.67	14.12	14.69	15.14	16.49	13.30	13.75	14.32	14.77	16.12
	6H	14.29	14.66	15.34	15.73	17.08	13.92	14.29	14.96	15.35	16.70
	8H	14.51	14.84	15.56	15.89	17.26	14.13	14.45	15.18	15.50	16.87
	12H	14.64	14.92	15.69	15.97	17.38	14.24	14.52	15.29	15.57	16.98
12H	4H	13.65	14.06	14.69	15.10	16.46	13.29	13.70	14.33	14.74	16.09
	6H	14.32	14.65	15.37	15.70	17.07	13.96	14.28	15.01	15.34	16.70
	8H	14.56	14.85	15.61	15.89	17.30	14.19	14.47	15.24	15.52	16.93

END OF REPORT