

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: P914251

Luminaire Tested: DFN2DIP-PN4F0-090D070US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914251
REPORT IS A COMBINATION OF REPORTS P901194 AND P898053
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-090D070US927-RLLONL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

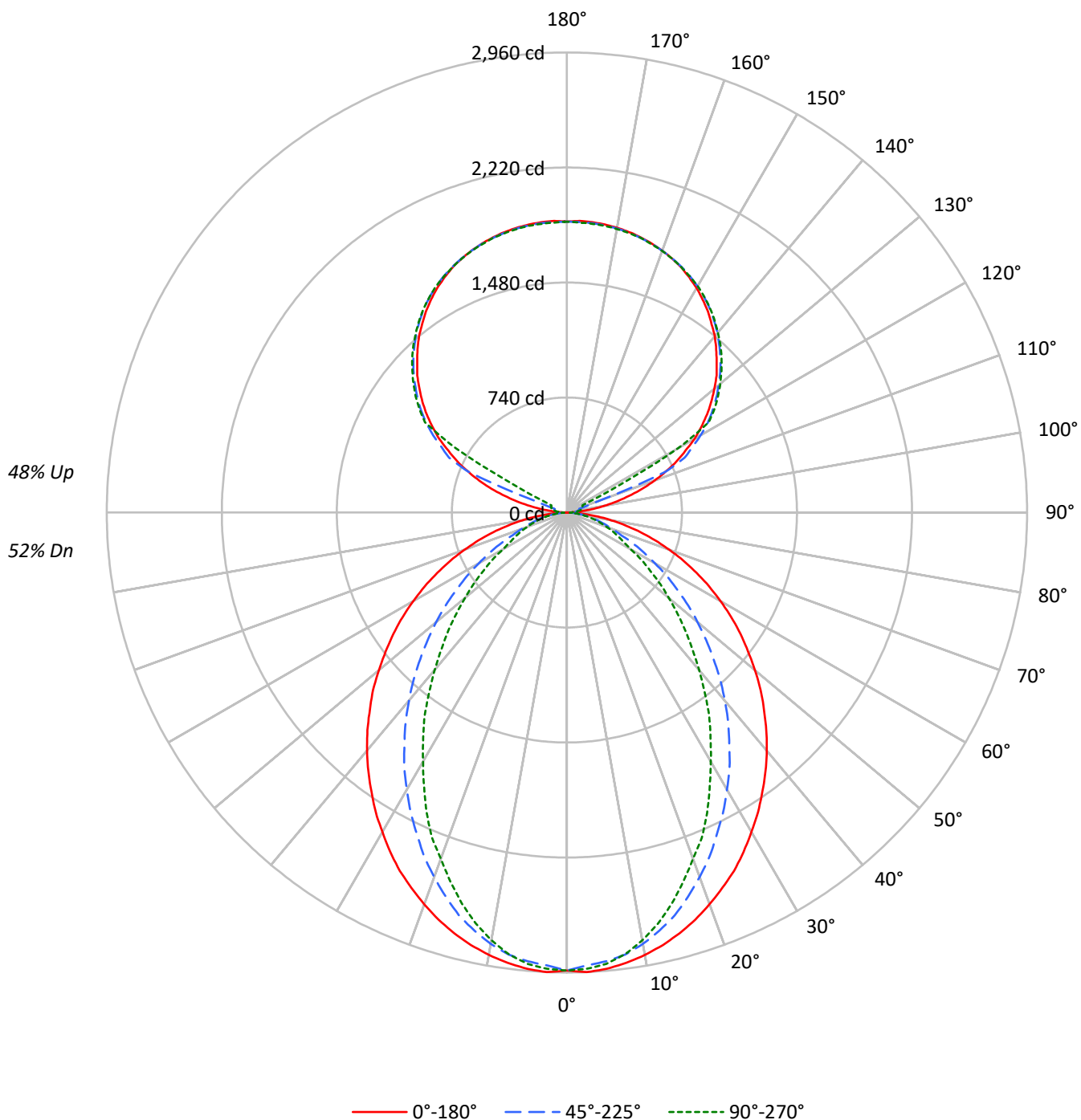
Lumens per Lamp: N/A
Luminaire Lumens: 11550.0 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 140.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P914251

CATALOG NUMBER: DFN2DIP-PN4F0-090D070US927-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P914251

CATALOG NUMBER: DFN2DIP-PN4F0-090D070US927-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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58
1	99	95	91	88	91	88	85	82	75	73	71	63	62	60	52	51	50
2	90	83	77	72	84	77	72	68	66	63	59	56	53	51	47	45	43
3	83	74	67	61	76	69	62	57	59	54	50	50	47	44	42	39	37
4	76	66	58	52	70	61	54	49	53	48	43	45	41	38	38	35	33
5	70	59	51	45	65	55	48	43	47	42	38	41	36	33	34	31	29
6	65	53	45	39	60	49	42	37	43	37	33	37	33	29	31	28	26
7	60	48	40	35	55	45	38	33	39	34	30	34	29	26	29	25	23
8	56	44	36	31	52	41	34	29	36	30	26	31	27	24	26	23	21
9	52	40	33	28	48	38	31	26	33	28	24	29	24	21	25	21	19
10	49	37	30	25	45	35	28	24	30	25	22	27	22	19	23	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2151	2151	2151
5°	2154	2117	2131
10°	2133	2076	2062
15°	2104	2008	1955
20°	2065	1913	1824
25°	2025	1807	1697
30°	1972	1699	1536
35°	1919	1582	1395
40°	1866	1462	1233
45°	1804	1328	1086
50°	1740	1192	942
55°	1673	1048	804
60°	1596	897	663
65°	1507	743	597
70°	1399	599	541
75°	1264	529	493
80°	1068	445	429
85°	743	298	325

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1804 cd/sqm

TEST NUMBER: P914251

CATALOG NUMBER: DFN2DIP-PN4F0-090D070US927-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.2	2.4
10°-20°	758.1	6.6
20°-30°	1064.4	9.2
30°-40°	1160.3	10.0
40°-50°	1066.4	9.2
50°-60°	837.5	7.3
60°-70°	545.1	4.7
70°-80°	280.6	2.4
80°-90°	74.9	0.6
90°-100°	61.7	0.5
100°-110°	230.0	2.0
110°-120°	610.1	5.3
120°-130°	1011.9	8.8
130°-140°	1074.9	9.3
140°-150°	999.0	8.6
150°-160°	803.2	7.0
160°-170°	517.5	4.5
170°-180°	178.1	1.5
0°-30°	2098.7	18.2
0°-40°	3258.9	28.2
0°-60°	5162.8	44.7
0°-90°	6063.5	52.5
90°-120°	901.9	7.8
90°-150°	3987.7	34.5
90°-180°	5487.0	47.5
0°-180°	11550.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2947	2947	2947	2947	2947	
5°	2947	2933	2899	2923	2915	279
15°	2803	2773	2683	2632	2606	790
25°	2544	2459	2283	2173	2133	1170
35°	2192	2056	1822	1653	1595	1372
45°	1792	1613	1333	1144	1080	1384
55°	1363	1155	867	707	656	1218
65°	920	704	464	373	365	912
75°	491	304	213	195	192	519
85°	114	58	51	51	51	132
90°	1	16	27	34	36	11
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: P914251

CATALOG NUMBER: DFN2DIP-PN4F0-090D070US927-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2946.7	2946.7	2946.7	2946.7	2946.7
2.5°	2960.0	2946.7	2917.2	2944.1	2938.8
5°	2946.7	2933.4	2898.6	2922.6	2914.7
7.5°	2922.6	2906.8	2869.4	2879.9	2866.6
10°	2890.7	2872.0	2818.8	2810.6	2794.7
12.5°	2850.7	2826.7	2754.6	2738.7	2709.3
15°	2802.7	2773.3	2682.7	2632.0	2605.5
17.5°	2746.7	2704.0	2591.9	2533.3	2490.6
20°	2682.7	2629.2	2495.9	2429.5	2370.6
22.5°	2613.4	2552.0	2397.2	2306.7	2266.8
25°	2544.1	2458.6	2282.7	2173.4	2133.3
27.5°	2461.5	2370.6	2176.0	2050.6	1989.2
30°	2373.5	2271.9	2058.6	1922.8	1850.6
32.5°	2288.0	2165.2	1946.8	1786.7	1719.9
35°	2192.1	2056.0	1821.5	1653.4	1594.6
37.5°	2098.7	1951.9	1704.1	1519.9	1453.4
40°	2000.0	1840.2	1581.3	1392.0	1322.7
42.5°	1898.7	1728.1	1458.7	1261.3	1194.8
45°	1792.1	1613.3	1333.4	1143.8	1079.9
47.5°	1690.8	1501.5	1213.5	1023.9	965.4
50°	1578.7	1389.4	1096.1	911.9	856.1
52.5°	1469.3	1269.2	984.0	808.0	757.4
55°	1362.6	1154.6	866.6	706.8	656.1
57.5°	1253.4	1040.1	762.8	613.4	570.7
60°	1141.3	928.0	653.3	517.5	474.8
62.5°	1032.1	818.8	559.9	432.1	410.8
65°	920.0	703.9	464.0	373.4	365.3
67.5°	813.4	597.2	373.4	327.9	320.0
70°	701.4	493.4	309.3	282.7	271.9
72.5°	594.7	397.2	258.6	237.3	232.0
75°	490.6	303.9	213.3	194.6	192.1
77.5°	386.7	215.9	168.0	157.3	151.9
80°	290.6	154.8	127.9	117.4	117.4
82.5°	202.6	104.1	88.0	82.6	82.6
85°	114.5	58.5	50.6	50.6	50.6
87.5°	42.7	21.2	21.2	18.7	18.7
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: P914251

CATALOG NUMBER: DFN2DIP-PN4F0-090D070US927-RLLONL

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: P914251

CATALOG NUMBER: DFN2DIP-PN4F0-090D070US927-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	10.05	10.90	10.99	11.85	13.09	6.01	6.86	6.95	7.82	9.05
	3H	11.73	12.49	12.68	13.45	14.71	7.20	7.96	8.16	8.93	10.19
	4H	12.34	13.06	13.31	14.03	15.30	7.65	8.37	8.62	9.34	10.61
	6H	12.76	13.43	13.74	14.40	15.68	7.98	8.64	8.96	9.61	10.89
	8H	12.89	13.52	13.88	14.51	15.79	8.07	8.70	9.05	9.69	10.97
	12H	12.96	13.56	13.95	14.54	15.84	8.11	8.71	9.10	9.69	11.00
4H	2H	10.07	10.79	11.04	11.75	13.02	6.61	7.33	7.58	8.30	9.57
	3H	11.90	12.50	12.88	13.50	14.78	7.96	8.56	8.95	9.56	10.84
	4H	12.60	13.14	13.59	14.13	15.44	8.51	9.06	9.50	10.05	11.36
	6H	13.12	13.58	14.12	14.60	15.90	8.93	9.40	9.94	10.42	11.72
	8H	13.29	13.73	14.30	14.74	16.06	9.06	9.50	10.07	10.51	11.83
	12H	13.39	13.78	14.41	14.81	16.13	9.13	9.53	10.15	10.55	11.87
8H	4H	12.57	13.00	13.57	14.01	15.33	8.80	9.23	9.80	10.24	11.56
	6H	13.14	13.50	14.16	14.55	15.86	9.32	9.68	10.35	10.73	12.05
	8H	13.35	13.67	14.39	14.71	16.05	9.51	9.83	10.55	10.86	12.20
	12H	13.50	13.78	14.54	14.81	16.19	9.63	9.91	10.67	10.94	12.32
12H	4H	12.52	12.91	13.54	13.94	15.26	8.80	9.20	9.83	10.22	11.55
	6H	13.11	13.43	14.15	14.47	15.80	9.37	9.69	10.40	10.72	12.06
	8H	13.34	13.62	14.37	14.64	16.03	9.58	9.86	10.62	10.89	12.27

END OF REPORT