

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: P914358

Luminaire Tested: DFN2DIP-PN4F0-120D070US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914358
REPORT IS A COMBINATION OF REPORTS P899680 AND P896497
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-120D070US927-RLLFLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

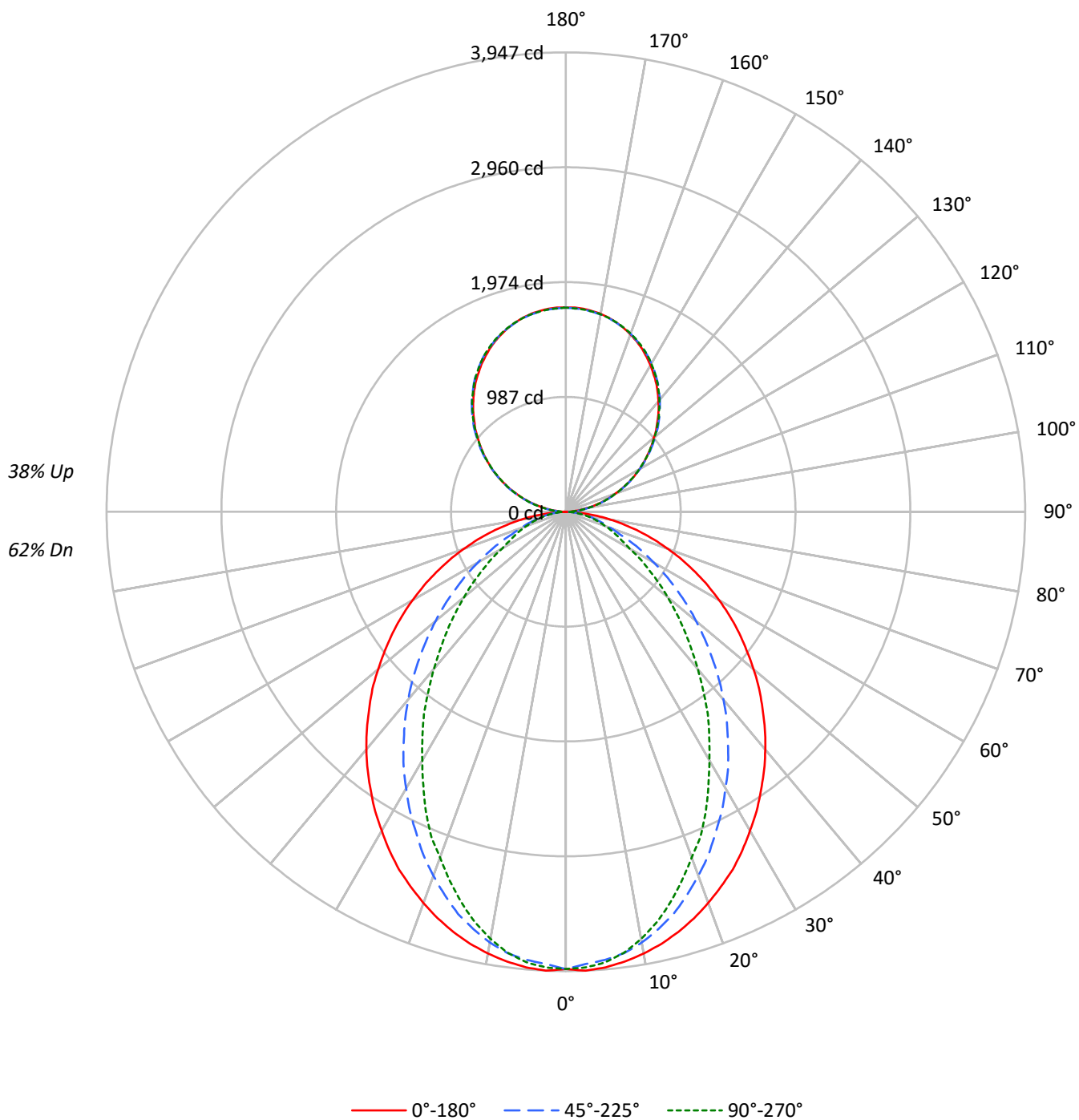
Lumens per Lamp: N/A
Luminaire Lumens: 12987.9 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 178.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P914358

CATALOG NUMBER: DFN2DIP-PN4F0-120D070US927-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P914358

CATALOG NUMBER: DFN2DIP-PN4F0-120D070US927-RLLFLL

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	101	97	93	90	95	91	88	85	80	78	75	70	68	66	60	59	58
2	93	85	79	74	87	80	75	71	71	67	63	62	59	56	54	52	50
3	85	76	68	63	79	71	65	60	63	58	54	55	52	48	48	46	43
4	78	67	60	54	73	64	57	51	56	51	47	50	46	42	44	40	38
5	72	60	52	47	67	57	50	45	51	45	41	45	41	37	40	36	33
6	66	55	47	41	62	52	44	39	46	40	36	41	36	33	36	32	30
7	62	49	42	36	58	47	40	35	42	36	32	38	33	29	33	29	27
8	57	45	37	32	54	43	36	31	39	33	29	34	30	26	31	27	24
9	54	41	34	29	50	39	33	28	36	30	26	32	27	24	28	25	22
10	50	38	31	26	47	36	30	25	33	27	24	30	25	22	26	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2868	2868	2868
5°	2873	2823	2841
10°	2844	2768	2749
15°	2805	2677	2607
20°	2753	2551	2432
25°	2700	2410	2263
30°	2629	2265	2048
35°	2559	2110	1860
40°	2488	1949	1644
45°	2406	1770	1448
50°	2320	1590	1256
55°	2231	1397	1072
60°	2128	1195	883
65°	2010	990	796
70°	1866	799	721
75°	1685	705	657
80°	1424	593	571
85°	992	398	433

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2406 cd/sqm

TEST NUMBER: P914358

CATALOG NUMBER: DFN2DIP-PN4F0-120D070US927-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	368.2	2.8
10°-20°	1010.8	7.8
20°-30°	1419.2	10.9
30°-40°	1547.0	11.9
40°-50°	1421.9	10.9
50°-60°	1116.7	8.6
60°-70°	726.9	5.6
70°-80°	374.2	2.9
80°-90°	100.5	0.8
90°-100°	108.5	0.8
100°-110°	344.8	2.7
110°-120°	590.1	4.5
120°-130°	776.1	6.0
130°-140°	871.1	6.7
140°-150°	854.2	6.6
150°-160°	716.6	5.5
160°-170°	475.2	3.7
170°-180°	166.1	1.3
0°-30°	2798.2	21.5
0°-40°	4345.2	33.5
0°-60°	6883.7	53.0
0°-90°	8085.2	62.3
90°-120°	1043.4	8.0
90°-150°	3544.8	27.3
90°-180°	4903.0	37.8
0°-180°	12987.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3929	3929	3929	3929	3929	
5°	3929	3911	3865	3897	3886	373
15°	3737	3698	3577	3509	3474	1053
25°	3392	3278	3044	2898	2844	1560
35°	2923	2741	2429	2205	2126	1829
45°	2389	2151	1778	1525	1440	1845
55°	1817	1540	1156	942	875	1623
65°	1227	939	619	498	487	1216
75°	654	405	284	260	256	692
85°	153	78	68	68	68	175
90°	2	19	52	49	50	13
95°	77	92	95	95	92	86
105°	318	322	326	328	328	336
115°	592	601	598	596	592	586
125°	861	874	870	866	864	770
135°	1114	1130	1134	1132	1128	861
145°	1352	1363	1372	1373	1367	845
155°	1546	1551	1556	1563	1558	712
165°	1682	1681	1681	1691	1684	475
175°	1751	1746	1743	1754	1745	166
180°	1754	1754	1754	1754	1754	

TEST NUMBER: P914358

CATALOG NUMBER: DFN2DIP-PN4F0-120D070US927-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3928.9	3928.9	3928.9	3928.9	3928.9
2.5°	3946.6	3928.9	3889.7	3925.5	3918.3
5°	3928.9	3911.2	3864.7	3896.8	3886.3
7.5°	3896.8	3875.7	3825.9	3839.9	3822.1
10°	3854.2	3829.3	3758.3	3747.4	3726.3
12.5°	3801.0	3769.0	3672.7	3651.6	3612.4
15°	3736.9	3697.7	3576.9	3509.4	3474.0
17.5°	3662.2	3605.2	3455.8	3377.8	3320.8
20°	3576.9	3505.6	3328.0	3239.3	3160.8
22.5°	3484.5	3402.7	3196.3	3075.6	3022.4
25°	3392.1	3278.1	3043.5	2897.9	2844.3
27.5°	3281.9	3160.8	2901.3	2734.2	2652.3
30°	3164.6	3029.2	2744.7	2563.7	2467.5
32.5°	3050.7	2886.9	2595.7	2382.2	2293.2
35°	2922.8	2741.3	2428.6	2204.6	2126.1
37.5°	2798.3	2602.6	2272.1	2026.5	1937.8
40°	2666.6	2453.5	2108.4	1856.0	1763.6
42.5°	2531.6	2304.1	1945.0	1681.7	1593.1
45°	2389.4	2151.0	1777.9	1525.2	1439.9
47.5°	2254.3	2002.0	1618.0	1365.2	1287.1
50°	2105.0	1852.6	1461.4	1215.8	1141.5
52.5°	1959.0	1692.3	1312.0	1077.4	1009.9
55°	1816.8	1539.5	1155.5	942.3	874.8
57.5°	1671.1	1386.7	1017.0	817.8	760.9
60°	1521.8	1237.3	871.0	690.0	633.0
62.5°	1376.2	1091.7	746.6	576.1	547.7
65°	1226.8	938.6	618.7	498.0	487.0
67.5°	1084.6	796.3	498.0	437.2	426.7
70°	935.2	657.9	412.3	376.8	362.5
72.5°	793.0	529.7	344.8	316.5	309.3
75°	654.1	405.1	284.5	259.5	256.1
77.5°	515.7	287.8	224.1	209.8	202.6
80°	387.5	206.4	170.5	156.5	156.5
82.5°	270.1	138.8	117.3	110.1	110.1
85°	152.8	78.1	67.5	67.5	67.5
87.5°	57.0	28.3	28.3	24.9	24.9
90°	1.6	19.0	51.8	48.6	50.2
92.5°	32.8	44.4	46.0	47.6	47.6
95°	77.2	92.0	94.7	94.7	92.0
97.5°	128.5	142.2	148.1	148.1	148.1
100°	187.7	199.9	204.1	204.1	202.5
102.5°	250.1	259.0	264.9	266.5	264.9
105°	318.3	322.5	325.7	328.4	328.4
107.5°	386.0	392.3	392.3	393.4	386.0
110°	451.5	460.0	460.0	460.0	455.7



TEST NUMBER: P914358

CATALOG NUMBER: DFN2DIP-PN4F0-120D070US927-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	522.4	531.4	529.8	525.5	522.4
115°	592.2	600.6	598.0	596.4	592.2
117.5°	661.4	673.0	665.7	661.4	657.2
120°	731.2	742.8	731.2	731.2	726.4
122.5°	794.6	809.5	802.1	797.8	794.6
125°	861.3	874.5	870.3	865.5	864.0
127.5°	926.3	942.7	936.9	930.6	926.3
130°	987.1	1006.1	1003.5	1000.4	994.5
132.5°	1055.3	1070.2	1071.2	1063.8	1059.5
135°	1114.0	1130.4	1133.6	1131.9	1127.7
137.5°	1179.6	1192.8	1195.4	1194.4	1188.0
140°	1237.2	1250.5	1257.8	1257.8	1252.0
142.5°	1296.4	1309.6	1313.8	1315.4	1309.6
145°	1352.5	1363.0	1371.5	1373.1	1367.3
147.5°	1402.7	1415.9	1422.3	1424.9	1419.1
150°	1454.5	1463.5	1469.3	1474.1	1469.3
152.5°	1500.5	1509.5	1516.9	1522.7	1516.9
155°	1546.5	1550.7	1555.5	1562.9	1558.1
157.5°	1586.2	1589.4	1592.0	1602.6	1595.1
160°	1621.6	1624.8	1626.3	1635.3	1629.0
162.5°	1654.4	1654.4	1656.0	1666.0	1658.6
165°	1682.4	1680.8	1680.8	1691.4	1683.9
167.5°	1707.8	1703.0	1703.0	1713.6	1706.2
170°	1726.8	1722.6	1721.0	1731.5	1722.6
172.5°	1740.0	1735.7	1734.2	1744.8	1735.7
175°	1750.6	1746.4	1743.2	1753.7	1744.8
177.5°	1756.4	1752.1	1749.0	1758.0	1749.0
180°	1753.7	1753.7	1753.7	1753.7	1753.7

TEST NUMBER: P914358

CATALOG NUMBER: DFN2DIP-PN4F0-120D070US927-RLLFLL

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	11.89	12.83	12.74	13.70	14.78	7.85	8.79	8.70	9.66	10.75
	3H	13.58	14.42	14.44	15.30	16.41	9.05	9.89	9.91	10.77	11.88
	4H	14.19	14.99	15.07	15.87	17.00	9.51	10.30	10.39	11.18	12.31
	6H	14.62	15.35	15.51	16.24	17.38	9.83	10.56	10.72	11.46	12.59
	8H	14.75	15.45	15.65	16.36	17.49	9.93	10.62	10.83	11.53	12.67
	12H	14.82	15.48	15.72	16.38	17.55	9.97	10.64	10.88	11.54	12.70
4H	2H	11.92	12.71	12.80	13.60	14.72	8.46	9.26	9.35	10.14	11.27
	3H	13.76	14.42	14.66	15.34	16.48	9.82	10.48	10.72	11.40	12.54
	4H	14.46	15.06	15.37	15.97	17.14	10.38	10.98	11.28	11.89	13.06
	6H	14.98	15.50	15.91	16.44	17.61	10.80	11.32	11.72	12.26	13.42
	8H	15.16	15.65	16.09	16.58	17.76	10.93	11.42	11.86	12.35	13.53
	12H	15.26	15.70	16.21	16.65	17.83	11.00	11.44	11.95	12.39	13.57
8H	4H	14.44	14.92	15.36	15.85	17.03	10.67	11.15	11.59	12.08	13.26
	6H	15.01	15.41	15.96	16.38	17.56	11.19	11.59	12.14	12.56	13.74
	8H	15.23	15.58	16.19	16.54	17.74	11.38	11.74	12.34	12.70	13.90
	12H	15.37	15.68	16.34	16.64	17.89	11.51	11.82	12.47	12.77	14.02
12H	4H	14.39	14.83	15.34	15.78	16.96	10.68	11.11	11.62	12.06	13.25
	6H	14.98	15.34	15.94	16.30	17.50	11.24	11.59	12.20	12.56	13.75
	8H	15.21	15.52	16.17	16.48	17.73	11.46	11.77	12.42	12.72	13.97