

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: P922171

Luminaire Tested: DFN2DIP-PN3F0-070D060US940-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922171
REPORT IS A COMBINATION OF REPORTS P901082 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D060US940-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

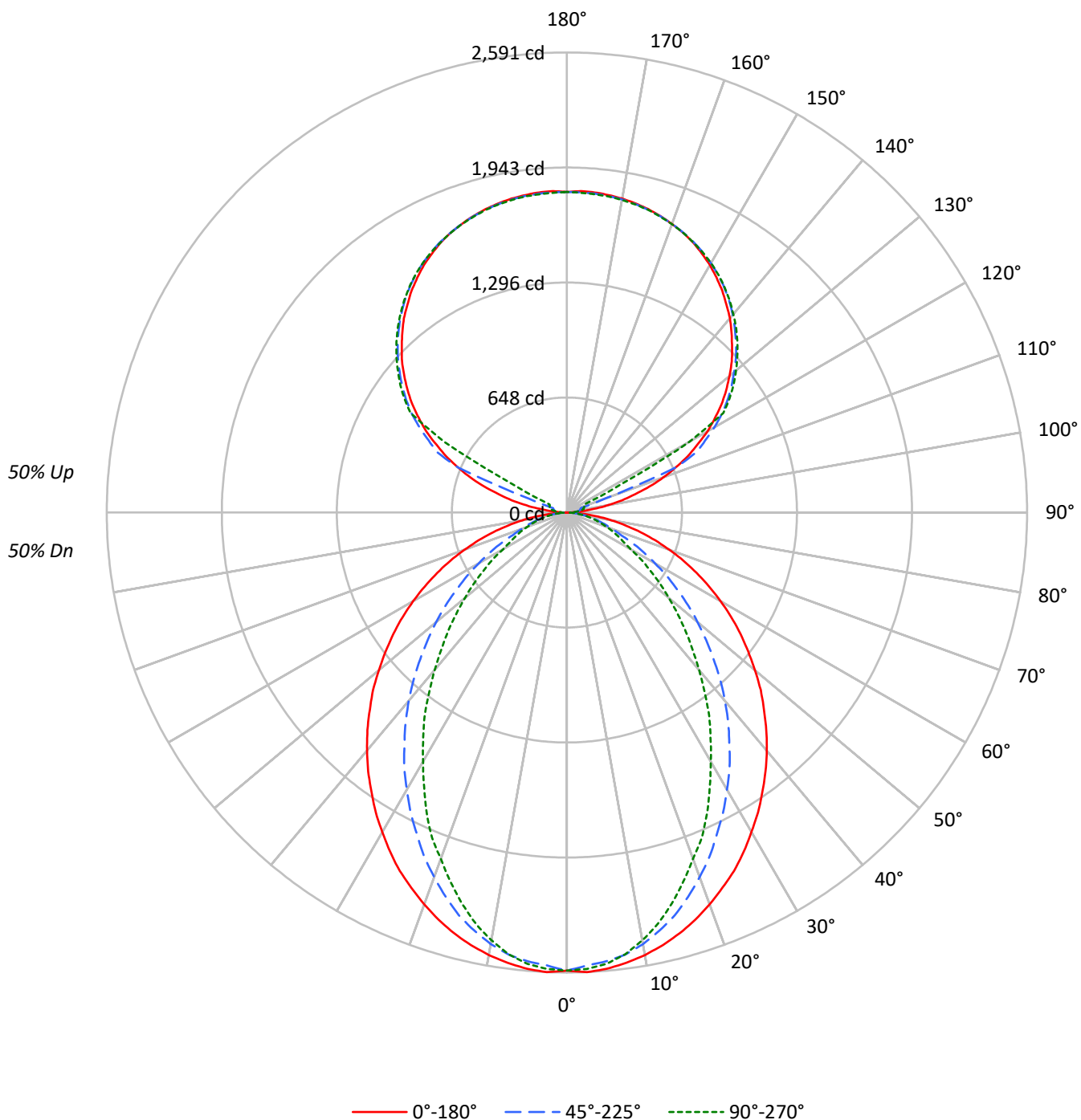
Lumens per Lamp: N/A
Luminaire Lumens: 10602.4 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 115.5
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: P922171

CATALOG NUMBER: DFN2DIP-PN3F0-070D060US940-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P922171

CATALOG NUMBER: DFN2DIP-PN3F0-070D060US940-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
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83		69	69	69		56
1	98	94	90	87	91	87	84	81	74	72	69		62	60	59		50
2	90	83	77	72	83	77	72	67	65	62	58		55	52	50		45
3	82	73	66	60	76	68	62	57	58	53	50		49	45	43		40
4	76	65	57	52	70	60	54	49	52	47	43		44	40	37		36
5	70	58	50	45	64	54	47	42	47	41	37		40	35	32		33
6	64	52	45	39	59	49	42	37	42	37	33		36	32	29		30
7	59	47	40	34	55	44	37	32	38	33	29		33	29	25		28
8	55	43	36	30	51	40	34	29	35	30	26		30	26	23		25
9	52	40	32	27	48	37	30	26	32	27	23		28	24	21		24
10	48	36	29	25	45	34	28	23	30	25	21		26	22	19		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3016	3016	3016
5°	3019	2966	2986
10°	2987	2905	2887
15°	2944	2807	2736
20°	2888	2673	2551
25°	2830	2523	2372
30°	2754	2369	2145
35°	2678	2204	1946
40°	2602	2033	1718
45°	2513	1844	1512
50°	2421	1653	1310
55°	2325	1450	1117
60°	2213	1237	918
65°	2084	1022	825
70°	1928	820	744
75°	1732	718	675
80°	1449	596	581
85°	984	388	429

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2513 cd/sqm

TEST NUMBER: P922171

CATALOG NUMBER: DFN2DIP-PN3F0-070D060US940-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.8	2.3
10°-20°	663.7	6.3
20°-30°	931.9	8.8
30°-40°	1015.8	9.6
40°-50°	933.6	8.8
50°-60°	733.2	6.9
60°-70°	477.3	4.5
70°-80°	245.7	2.3
80°-90°	65.9	0.6
90°-100°	59.5	0.6
100°-110°	222.0	2.1
110°-120°	588.7	5.6
120°-130°	976.3	9.2
130°-140°	1037.1	9.8
140°-150°	963.9	9.1
150°-160°	774.9	7.3
160°-170°	499.3	4.7
170°-180°	171.9	1.6
0°-30°	1837.4	17.3
0°-40°	2853.2	26.9
0°-60°	4520.0	42.6
0°-90°	5308.8	50.1
90°-120°	870.2	8.2
90°-150°	3847.4	36.3
90°-180°	5294.0	49.9
0°-180°	10602.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2580	2580	2580	2580	2580	
5°	2580	2568	2538	2559	2552	245
15°	2454	2428	2349	2304	2281	691
25°	2227	2152	1998	1903	1868	1024
35°	1919	1800	1595	1448	1396	1201
45°	1569	1412	1167	1002	946	1212
55°	1193	1011	759	619	574	1066
65°	806	616	406	327	320	799
75°	430	266	187	170	168	454
85°	100	51	44	44	44	115
90°	1	16	26	33	35	10
95°	85	42	51	58	56	101
105°	397	436	80	94	99	424
115°	751	774	806	201	107	740
125°	1062	1079	1104	1113	1117	947
135°	1314	1335	1347	1360	1358	1015
145°	1525	1523	1546	1555	1548	954
155°	1679	1667	1683	1691	1680	774
165°	1769	1761	1765	1774	1765	500
175°	1810	1800	1803	1812	1799	172
180°	1806	1806	1806	1806	1806	

TEST NUMBER: P922171

CATALOG NUMBER: DFN2DIP-PN3F0-070D060US940-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2579.8	2579.8	2579.8	2579.8	2579.8
2.5°	2591.4	2579.8	2554.0	2577.6	2572.9
5°	2579.8	2568.1	2537.7	2558.8	2551.8
7.5°	2558.8	2544.9	2512.2	2521.3	2509.7
10°	2530.8	2514.4	2467.8	2460.7	2446.8
12.5°	2495.8	2474.8	2411.6	2397.7	2371.9
15°	2453.7	2427.9	2348.7	2304.4	2281.1
17.5°	2404.7	2367.3	2269.2	2217.9	2180.5
20°	2348.7	2301.9	2185.2	2127.0	2075.5
22.5°	2288.0	2234.3	2098.7	2019.5	1984.6
25°	2227.3	2152.5	1998.4	1902.8	1867.7
27.5°	2155.0	2075.5	1905.1	1795.4	1741.6
30°	2078.0	1989.0	1802.2	1683.4	1620.2
32.5°	2003.1	1895.7	1704.4	1564.2	1505.7
35°	1919.1	1800.0	1594.7	1447.6	1396.1
37.5°	1837.5	1708.9	1491.9	1330.6	1272.5
40°	1751.0	1611.1	1384.4	1218.7	1158.0
42.5°	1662.3	1513.0	1277.1	1104.2	1046.1
45°	1569.0	1412.4	1167.4	1001.5	945.5
47.5°	1480.2	1314.6	1062.4	896.4	845.2
50°	1382.2	1216.5	959.6	798.3	749.6
52.5°	1286.3	1111.2	861.5	707.4	663.1
55°	1192.9	1010.8	758.7	618.8	574.4
57.5°	1097.3	910.5	667.8	537.0	499.6
60°	999.3	812.4	571.9	453.1	415.6
62.5°	903.6	716.8	490.2	378.3	359.6
65°	805.5	616.3	406.3	327.0	319.8
67.5°	712.1	522.9	327.0	287.0	280.2
70°	614.0	431.9	270.7	247.4	238.0
72.5°	520.7	347.8	226.4	207.9	203.1
75°	429.5	266.0	186.7	170.4	168.2
77.5°	338.6	189.0	147.1	137.7	133.0
80°	254.4	135.5	112.0	102.8	102.8
82.5°	177.4	91.1	77.0	72.3	72.3
85°	100.3	51.3	44.3	44.3	44.3
87.5°	37.4	18.5	18.5	16.3	16.3
90°	1.2	15.7	26.0	32.7	35.2
92.5°	32.7	27.5	31.3	34.0	35.2
95°	84.9	41.7	50.9	57.6	56.2
97.5°	152.8	45.7	66.5	70.6	71.9
100°	231.3	52.3	74.5	84.9	87.5
102.5°	317.4	315.0	77.1	91.4	95.4
105°	397.2	436.4	79.7	94.0	99.3
107.5°	490.0	522.5	82.4	96.7	101.9
110°	578.9	606.2	228.7	98.1	103.2



TEST NUMBER: P922171

CATALOG NUMBER: DFN2DIP-PN3F0-070D060US940-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	662.5	685.9	663.7	100.5	104.6
115°	751.3	773.5	806.2	201.3	107.2
117.5°	828.3	854.4	876.7	689.8	347.5
120°	914.6	934.2	957.8	973.4	797.0
122.5°	987.7	1008.6	1034.8	1042.6	1044.0
125°	1062.2	1079.2	1104.0	1113.2	1117.0
127.5°	1130.2	1148.4	1168.1	1181.2	1182.4
130°	1194.2	1215.1	1229.4	1243.8	1242.6
132.5°	1259.5	1276.6	1290.8	1302.6	1301.4
135°	1314.5	1335.4	1347.0	1360.2	1357.5
137.5°	1371.8	1387.5	1400.7	1413.7	1409.9
140°	1428.0	1438.6	1452.9	1464.6	1458.1
142.5°	1475.2	1484.3	1501.3	1511.6	1505.1
145°	1524.8	1523.4	1545.6	1554.8	1548.3
147.5°	1567.8	1563.9	1586.1	1592.6	1587.5
150°	1609.7	1600.5	1621.5	1629.2	1622.7
152.5°	1644.9	1634.5	1654.0	1662.0	1652.8
155°	1678.9	1667.2	1682.9	1690.7	1680.2
157.5°	1706.4	1695.9	1707.7	1716.9	1706.4
160°	1729.9	1722.0	1729.9	1737.7	1728.6
162.5°	1750.7	1742.9	1749.4	1758.6	1746.9
165°	1769.1	1761.3	1765.1	1774.3	1765.1
167.5°	1783.4	1775.6	1779.6	1788.8	1776.9
170°	1795.3	1787.3	1790.0	1799.1	1787.3
172.5°	1803.0	1795.3	1797.9	1807.1	1795.3
175°	1809.5	1800.4	1803.0	1812.1	1799.1
177.5°	1812.1	1803.0	1804.4	1813.6	1801.8
180°	1805.6	1805.6	1805.6	1805.6	1805.6

TEST NUMBER: P922171

CATALOG NUMBER: DFN2DIP-PN3F0-070D060US940-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	10.95	11.78	11.91	12.75	14.03	6.92	7.75	7.88	8.72	9.99
	3H	12.62	13.36	13.60	14.35	15.64	8.10	8.84	9.07	9.82	11.12
	4H	13.23	13.93	14.21	14.91	16.22	8.54	9.25	9.53	10.23	11.54
	6H	13.64	14.29	14.64	15.28	16.60	8.86	9.51	9.86	10.50	11.81
	8H	13.77	14.38	14.77	15.39	16.70	8.95	9.56	9.95	10.57	11.88
	12H	13.83	14.41	14.84	15.41	16.75	8.99	9.57	10.00	10.57	11.91
4H	2H	10.97	11.67	11.96	12.66	13.96	7.51	8.21	8.50	9.20	10.50
	3H	12.79	13.37	13.79	14.39	15.71	8.85	9.44	9.85	10.45	11.77
	4H	13.48	14.01	14.49	15.02	16.36	9.39	9.93	10.41	10.94	12.28
	6H	13.99	14.44	15.01	15.48	16.81	9.81	10.27	10.83	11.30	12.64
	8H	14.16	14.59	15.18	15.61	16.96	9.93	10.36	10.96	11.39	12.74
	12H	14.25	14.63	15.29	15.67	17.03	9.99	10.38	11.04	11.42	12.78
8H	4H	13.44	13.87	14.47	14.90	16.25	9.67	10.10	10.69	11.12	12.48
	6H	14.00	14.36	15.05	15.42	16.77	10.18	10.53	11.23	11.60	12.95
	8H	14.21	14.52	15.27	15.58	16.95	10.37	10.68	11.42	11.73	13.10
	12H	14.35	14.62	15.41	15.67	17.08	10.48	10.75	11.54	11.80	13.21
12H	4H	13.39	13.78	14.44	14.82	16.18	9.68	10.06	10.72	11.10	12.46
	6H	13.98	14.29	15.03	15.34	16.71	10.23	10.54	11.28	11.59	12.96
	8H	14.19	14.47	15.25	15.51	16.93	10.43	10.71	11.49	11.75	13.17