

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: P919332

Luminaire Tested: DFN2DIP-PN3F0-030D070US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919332
REPORT IS A COMBINATION OF REPORTS P899567 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D070US935-FLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

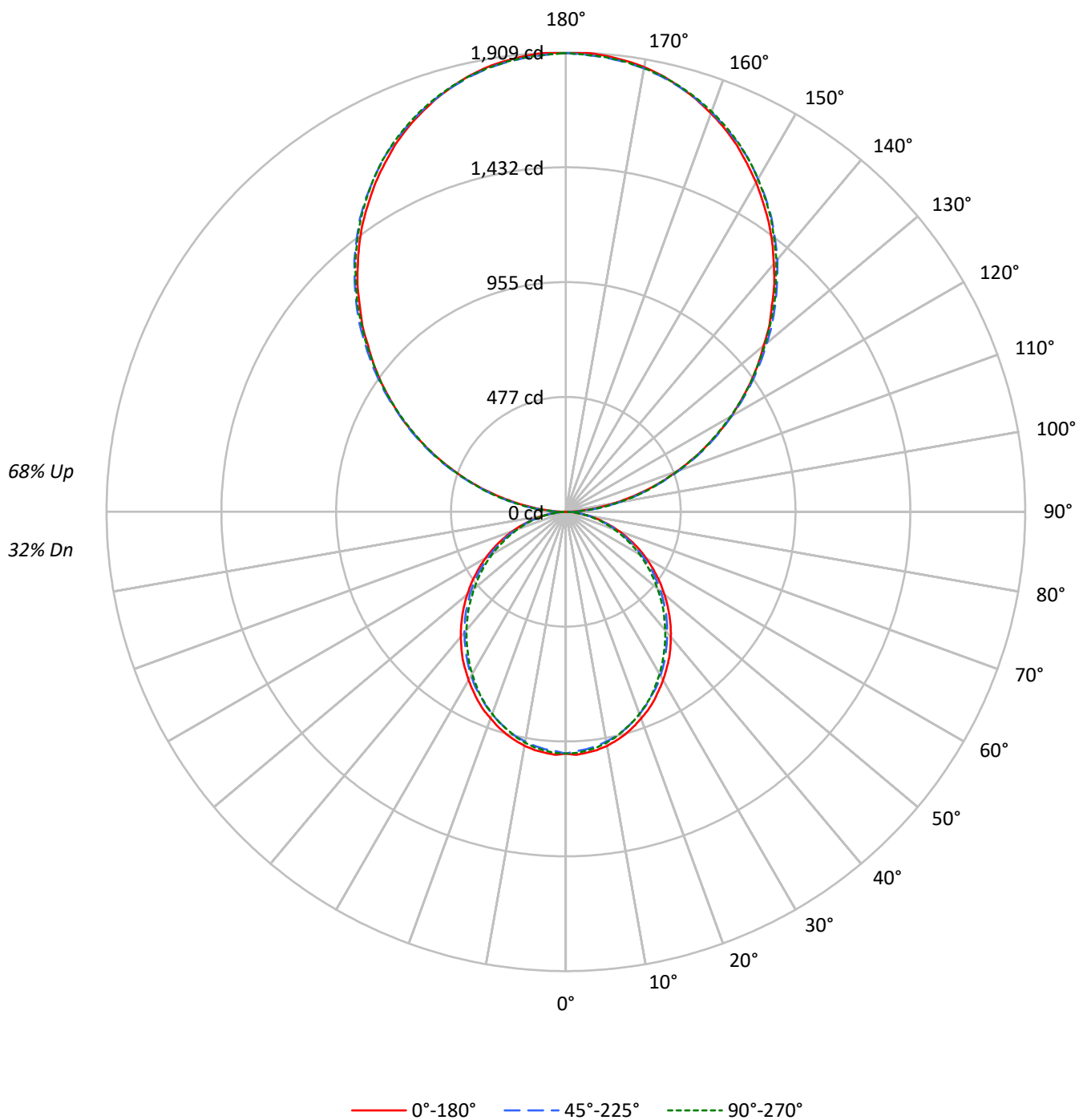
Lumens per Lamp: N/A
Luminaire Lumens: 7891.1 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 78.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P919332

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US935-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P919332

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US935-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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40
1	94	90	86	82	84	81	78	75	64	62	60	49	48	47	35	34	34
2	85	78	72	67	77	71	66	61	56	53	50	43	41	39	31	30	28
3	78	69	62	56	70	62	56	51	50	45	42	38	35	33	28	26	24
4	71	61	53	47	64	55	48	43	44	39	36	34	31	28	25	23	21
5	65	54	46	40	59	49	42	37	39	34	31	30	27	24	22	20	18
6	60	48	40	35	54	44	37	32	35	30	27	27	24	21	20	18	16
7	55	43	36	30	50	40	33	28	32	27	23	25	21	19	18	16	14
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	14	13
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	15	13	11
10	44	33	26	21	40	30	24	20	24	20	16	19	16	13	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1175	1175	1175
5°	1176	1158	1166
10°	1166	1141	1150
15°	1148	1122	1124
20°	1124	1095	1099
25°	1100	1063	1069
30°	1071	1033	1031
35°	1043	998	992
40°	1008	962	954
45°	974	927	915
50°	936	889	870
55°	897	846	829
60°	852	795	781
65°	803	741	726
70°	741	677	665
75°	655	599	609
80°	551	499	502
85°	388	330	327

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1889 cd/sqm

TEST NUMBER: P919332

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US935-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	1.2
10°-20°	266.2	3.4
20°-30°	391.1	5.0
30°-40°	454.3	5.8
40°-50°	453.7	5.7
50°-60°	395.6	5.0
60°-70°	292.5	3.7
70°-80°	165.5	2.1
80°-90°	49.1	0.6
90°-100°	117.9	1.5
100°-110°	374.8	4.7
110°-120°	641.3	8.1
120°-130°	843.5	10.7
130°-140°	946.7	12.0
140°-150°	928.4	11.8
150°-160°	778.8	9.9
160°-170°	516.5	6.5
170°-180°	180.5	2.3
0°-30°	751.9	9.5
0°-40°	1206.2	15.3
0°-60°	2055.6	26.0
0°-90°	2562.6	32.5
90°-120°	1134.1	14.4
90°-150°	3852.7	48.8
90°-180°	5328.0	67.5
0°-180°	7891.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1005	1005	1005	1005	1005	
5°	1005	1001	991	998	996	95
15°	957	951	938	942	938	269
25°	866	858	842	844	842	398
35°	747	737	722	716	711	467
45°	608	601	587	576	572	469
55°	460	454	443	431	426	411
65°	310	304	295	286	281	307
75°	162	160	156	150	152	173
85°	40	39	38	35	34	44
90°	2	21	56	53	55	8
95°	84	100	103	103	100	93
105°	346	350	354	357	357	365
115°	644	653	650	648	644	637
125°	936	950	946	941	939	837
135°	1211	1229	1232	1230	1226	936
145°	1470	1481	1491	1492	1486	918
155°	1681	1685	1691	1699	1694	774
165°	1828	1827	1827	1838	1830	516
175°	1903	1898	1895	1906	1896	181
180°	1906	1906	1906	1906	1906	

TEST NUMBER: P919332

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US935-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1005.0	1005.0	1005.0	1005.0	1005.0
2.5°	1010.9	1006.1	995.4	1005.0	1003.2
5°	1005.0	1001.3	990.6	998.3	996.4
7.5°	998.3	992.6	981.9	989.7	987.7
10°	987.7	980.9	969.4	977.1	974.2
12.5°	973.2	967.4	955.9	960.6	958.7
15°	956.7	951.1	938.4	942.3	937.5
17.5°	936.4	930.7	918.1	922.9	918.1
20°	914.2	908.4	894.9	897.8	894.0
22.5°	892.1	883.4	870.7	870.7	868.7
25°	865.9	858.2	841.8	843.7	841.8
27.5°	836.9	830.1	817.6	814.8	809.9
30°	808.0	800.2	785.7	782.8	778.9
32.5°	777.1	771.3	755.8	749.9	746.1
35°	747.1	737.4	721.9	716.1	711.3
37.5°	713.3	704.6	689.1	682.3	677.4
40°	678.5	670.7	655.2	646.6	642.7
42.5°	644.6	636.9	621.5	611.7	606.0
45°	608.0	601.1	586.6	576.0	572.1
47.5°	572.1	565.4	549.9	539.2	533.5
50°	534.4	529.6	516.1	502.6	497.7
52.5°	497.7	490.9	478.5	467.8	461.0
55°	460.1	454.3	442.6	431.1	426.3
57.5°	422.3	417.5	404.9	393.3	389.4
60°	384.6	380.8	367.3	356.6	353.8
62.5°	347.9	341.1	331.5	321.8	318.0
65°	310.3	304.4	294.8	286.1	281.3
67.5°	271.6	266.7	258.0	251.3	247.5
70°	235.8	232.0	223.3	216.5	212.7
72.5°	199.1	195.2	190.4	183.7	180.8
75°	162.3	160.5	155.6	149.8	151.8
77.5°	129.5	125.6	123.6	120.8	118.0
80°	96.7	95.7	93.7	90.8	88.9
82.5°	65.7	65.7	64.8	60.9	60.9
85°	39.6	38.7	37.7	34.8	33.8
87.5°	17.4	15.5	13.5	10.7	9.6
90°	1.7	20.7	56.3	52.9	54.6
92.5°	35.6	48.3	50.0	51.7	51.7
95°	83.9	100.0	102.9	102.9	100.0
97.5°	139.7	154.5	160.9	160.9	160.9
100°	204.0	217.2	221.8	221.8	220.1
102.5°	271.8	281.5	287.9	289.6	287.9
105°	345.9	350.5	354.0	356.9	356.9
107.5°	419.5	426.4	426.4	427.6	419.5
110°	490.8	500.0	500.0	500.0	495.3

TEST NUMBER: P919332

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US935-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	567.7	577.6	575.8	571.2	567.7
115°	643.6	652.8	650.0	648.2	643.6
117.5°	718.8	731.5	723.5	718.8	714.3
120°	794.7	807.4	794.7	794.7	789.5
122.5°	863.7	879.8	871.8	867.1	863.7
125°	936.1	950.5	945.9	940.7	939.0
127.5°	1006.8	1024.6	1018.3	1011.4	1006.8
130°	1072.9	1093.6	1090.7	1087.3	1080.9
132.5°	1147.0	1163.1	1164.2	1156.2	1151.6
135°	1210.8	1228.6	1232.1	1230.3	1225.7
137.5°	1282.0	1296.4	1299.2	1298.1	1291.2
140°	1344.7	1359.1	1367.1	1367.1	1360.8
142.5°	1409.0	1423.4	1428.0	1429.7	1423.4
145°	1470.0	1481.4	1490.6	1492.4	1486.1
147.5°	1524.6	1538.9	1545.8	1548.7	1542.4
150°	1580.9	1590.6	1597.0	1602.1	1597.0
152.5°	1630.8	1640.6	1648.6	1655.0	1648.6
155°	1680.8	1685.4	1690.7	1698.7	1693.5
157.5°	1724.0	1727.4	1730.3	1741.8	1733.7
160°	1762.5	1765.9	1767.6	1777.4	1770.5
162.5°	1798.1	1798.1	1799.8	1810.7	1802.7
165°	1828.5	1826.8	1826.8	1838.3	1830.2
167.5°	1856.1	1851.0	1851.0	1862.4	1854.4
170°	1876.8	1872.2	1870.5	1882.0	1872.2
172.5°	1891.2	1886.5	1884.8	1896.3	1886.5
175°	1902.6	1898.1	1894.6	1906.1	1896.3
177.5°	1909.0	1904.4	1900.9	1910.7	1900.9
180°	1906.1	1906.1	1906.1	1906.1	1906.1

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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	5.90	6.63	7.00	7.72	9.22	5.46	6.19	6.56	7.28	8.78
	3H	7.55	8.19	8.65	9.30	10.81	7.06	7.71	8.17	8.81	10.33
	4H	8.12	8.74	9.24	9.84	11.36	7.64	8.25	8.75	9.36	10.88
	6H	8.51	9.08	9.63	10.18	11.72	8.02	8.59	9.15	9.69	11.23
	8H	8.61	9.15	9.74	10.27	11.80	8.12	8.66	9.25	9.78	11.31
	12H	8.65	9.16	9.78	10.28	11.83	8.16	8.67	9.28	9.78	11.33
4H	2H	6.34	6.96	7.46	8.06	9.58	5.99	6.61	7.11	7.71	9.23
	3H	8.19	8.70	9.32	9.83	11.37	7.79	8.30	8.92	9.43	10.97
	4H	8.89	9.37	10.02	10.48	12.04	8.48	8.95	9.61	10.07	11.62
	6H	9.40	9.80	10.53	10.94	12.49	8.97	9.38	10.11	10.52	12.07
	8H	9.54	9.92	10.68	11.05	12.61	9.11	9.49	10.25	10.62	12.19
	12H	9.60	9.94	10.76	11.09	12.66	9.16	9.51	10.32	10.65	12.22
8H	4H	9.07	9.45	10.21	10.58	12.15	8.71	9.08	9.84	10.21	11.78
	6H	9.69	10.00	10.85	11.18	12.74	9.32	9.63	10.48	10.80	12.37
	8H	9.91	10.18	11.07	11.33	12.92	9.53	9.80	10.69	10.95	12.53
	12H	10.03	10.27	11.20	11.42	13.04	9.63	9.87	10.80	11.02	12.64
12H	4H	9.05	9.40	10.21	10.54	12.11	8.69	9.03	9.84	10.18	11.75
	6H	9.72	9.99	10.88	11.15	12.73	9.36	9.63	10.52	10.78	12.36
	8H	9.95	10.19	11.12	11.34	12.96	9.58	9.82	10.75	10.97	12.59

END OF REPORT