

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: P920771

Luminaire Tested: DFN2DIP-TR3F0-040D070US935-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920771
REPORT IS A COMBINATION OF REPORTS P901849 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D070US935-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

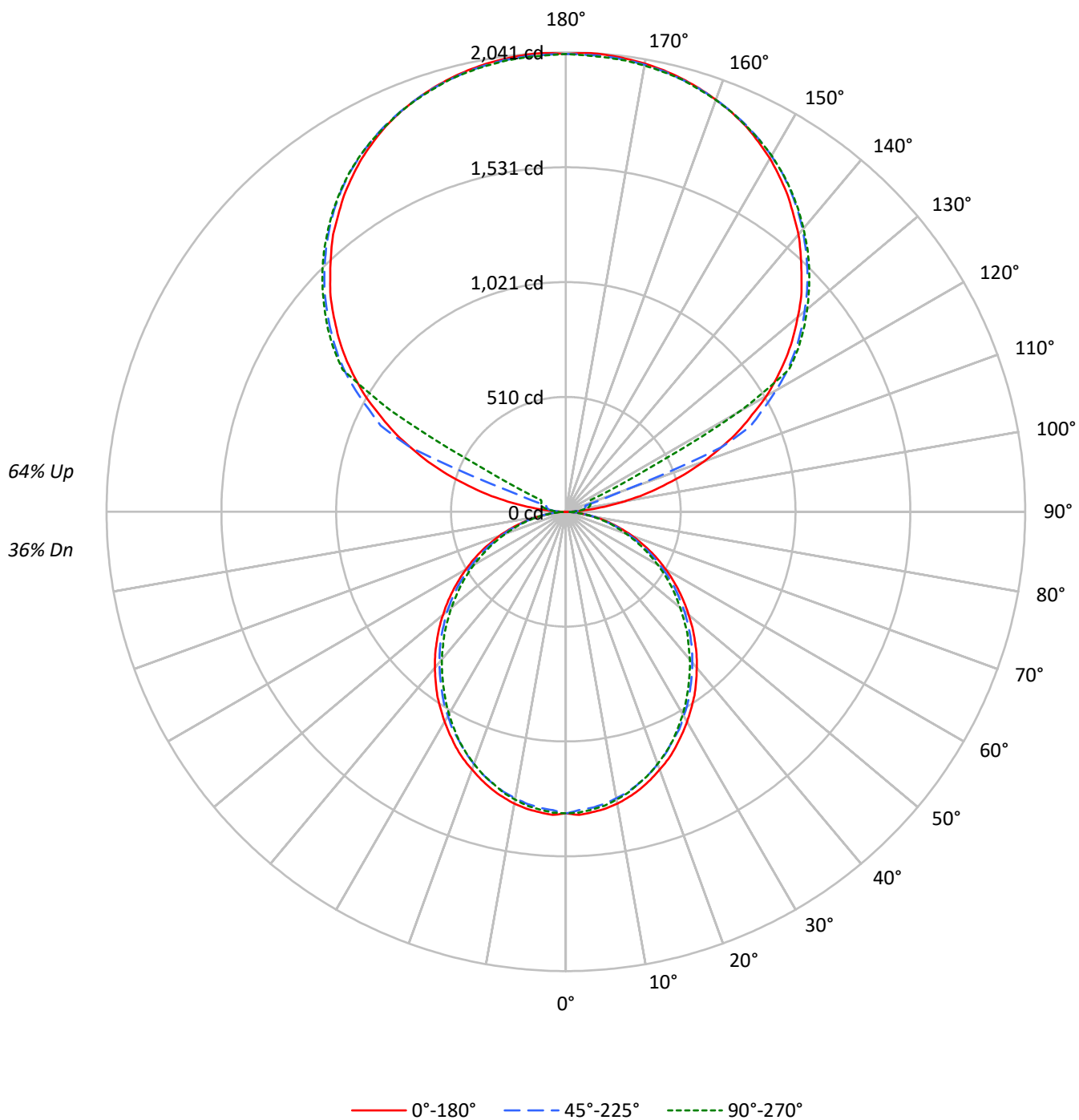
Lumens per Lamp: N/A
Luminaire Lumens: 9376.3 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 88.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P920771

CATALOG NUMBER: DFN2DIP-TR3F0-040D070US935-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P920771

CATALOG NUMBER: DFN2DIP-TR3F0-040D070US935-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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	39	38	37
2	86	79	73	68	78	72	67	62	58	54	51	46	43	41	34	32	31
3	79	69	62	57	71	63	57	52	51	47	43	40	37	35	30	28	26
4	72	61	54	48	65	56	49	44	45	41	37	36	32	30	27	25	23
5	66	55	47	41	59	50	43	38	41	35	32	32	28	26	24	22	20
6	61	49	41	35	55	45	38	33	37	31	27	29	25	22	22	19	17
7	56	44	36	31	51	40	33	29	33	28	24	26	23	20	20	17	15
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	18	16	14
9	48	36	29	24	44	33	27	22	28	23	19	22	18	16	17	14	12
10	45	33	26	21	41	31	24	20	25	20	17	20	17	14	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1670	1670	1670
5°	1672	1645	1657
10°	1657	1622	1633
15°	1632	1594	1597
20°	1598	1555	1560
25°	1564	1509	1517
30°	1522	1467	1464
35°	1482	1416	1407
40°	1434	1366	1353
45°	1384	1315	1297
50°	1331	1261	1233
55°	1275	1200	1173
60°	1212	1126	1106
65°	1142	1050	1026
70°	1054	957	939
75°	932	846	857
80°	784	704	705
85°	554	464	455

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1384 cd/sqm

TEST NUMBER: P920771

CATALOG NUMBER: DFN2DIP-TR3F0-040D070US935-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	1.3
10°-20°	354.9	3.8
20°-30°	521.5	5.6
30°-40°	605.7	6.5
40°-50°	605.0	6.5
50°-60°	527.5	5.6
60°-70°	389.9	4.2
70°-80°	220.6	2.4
80°-90°	61.8	0.7
90°-100°	67.1	0.7
100°-110°	250.0	2.7
110°-120°	663.1	7.1
120°-130°	1099.8	11.7
130°-140°	1168.3	12.5
140°-150°	1085.8	11.6
150°-160°	872.9	9.3
160°-170°	562.5	6.0
170°-180°	193.6	2.1
0°-30°	1002.5	10.7
0°-40°	1608.3	17.2
0°-60°	2740.7	29.2
0°-90°	3413.1	36.4
90°-120°	980.2	10.5
90°-150°	4334.1	46.2
90°-180°	5963.0	63.6
0°-180°	9376.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1340	1340	1340	1340	1340	
5°	1340	1335	1321	1331	1329	127
15°	1276	1268	1251	1256	1250	359
25°	1154	1144	1122	1125	1122	531
35°	996	983	963	955	948	622
45°	810	802	782	768	763	626
55°	614	606	590	575	568	548
65°	414	406	393	381	375	409
75°	216	214	207	200	202	231
85°	53	52	50	46	45	59
90°	1	18	29	37	40	9
95°	96	47	57	65	63	113
105°	448	492	90	106	112	478
115°	846	871	908	227	121	833
125°	1196	1216	1244	1254	1258	1067
135°	1481	1504	1517	1532	1529	1144
145°	1718	1716	1741	1751	1744	1074
155°	1891	1878	1896	1904	1893	872
165°	1993	1984	1988	1999	1988	563
175°	2038	2028	2031	2041	2027	194
180°	2034	2034	2034	2034	2034	

TEST NUMBER: P920771

CATALOG NUMBER: DFN2DIP-TR3F0-040D070US935-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1340.1	1340.1	1340.1	1340.1	1340.1
2.5°	1347.9	1341.4	1327.2	1340.1	1337.6
5°	1340.1	1335.0	1320.8	1331.0	1328.6
7.5°	1331.0	1323.4	1309.1	1319.6	1317.0
10°	1317.0	1307.9	1292.5	1302.8	1298.9
12.5°	1297.5	1289.9	1274.4	1280.9	1278.2
15°	1275.7	1268.0	1251.2	1256.4	1250.0
17.5°	1248.6	1241.0	1224.2	1230.5	1224.2
20°	1218.9	1211.3	1193.3	1197.0	1192.1
22.5°	1189.4	1177.8	1161.0	1161.0	1158.4
25°	1154.5	1144.3	1122.4	1124.9	1122.4
27.5°	1115.9	1106.8	1090.2	1086.3	1079.9
30°	1077.3	1066.9	1047.7	1043.8	1038.6
32.5°	1036.0	1028.4	1007.7	1000.0	994.7
35°	996.1	983.3	962.6	954.8	948.4
37.5°	951.0	939.3	918.7	909.7	903.3
40°	904.7	894.2	873.6	862.1	857.0
42.5°	859.5	849.1	828.6	815.6	808.0
45°	810.5	801.6	782.1	768.1	762.8
47.5°	762.8	753.8	733.2	719.0	711.4
50°	712.6	706.1	688.1	670.0	663.6
52.5°	663.6	654.6	637.9	623.7	614.7
55°	613.5	605.6	590.2	574.7	568.3
57.5°	563.1	556.7	539.8	524.4	519.3
60°	512.8	507.7	489.7	475.5	471.7
62.5°	463.9	454.9	442.0	429.1	424.0
65°	413.7	405.9	393.0	381.4	375.1
67.5°	362.1	355.6	344.1	335.1	329.9
70°	314.4	309.3	297.6	288.6	283.5
72.5°	265.5	260.3	253.9	244.9	241.0
75°	216.5	214.0	207.4	199.8	202.3
77.5°	172.6	167.5	164.9	161.0	157.2
80°	128.9	127.5	124.9	121.1	118.6
82.5°	87.6	87.6	86.4	81.2	81.2
85°	52.8	51.6	50.3	46.3	45.1
87.5°	23.2	20.7	18.1	14.2	12.8
90°	1.4	17.7	29.4	36.9	39.7
92.5°	36.9	30.9	35.3	38.3	39.7
95°	95.6	47.0	57.3	64.8	63.3
97.5°	172.1	51.6	75.0	79.6	80.9
100°	260.6	58.9	83.9	95.6	98.6
102.5°	357.6	354.8	86.9	103.0	107.5
105°	447.5	491.6	89.8	105.9	111.8
107.5°	551.9	588.7	92.8	108.9	114.9
110°	652.1	682.9	257.6	110.5	116.2

TEST NUMBER: P920771

CATALOG NUMBER: DFN2DIP-TR3F0-040D070US935-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	746.3	772.7	747.7	113.2	117.8
115°	846.3	871.2	908.1	226.7	120.8
117.5°	933.1	962.5	987.7	777.1	391.5
120°	1030.3	1052.3	1078.9	1096.6	897.8
122.5°	1112.6	1136.2	1165.8	1174.5	1176.0
125°	1196.5	1215.7	1243.7	1254.0	1258.3
127.5°	1273.1	1293.6	1315.9	1330.6	1332.0
130°	1345.2	1368.8	1384.9	1401.2	1399.8
132.5°	1418.8	1438.0	1454.1	1467.4	1466.0
135°	1480.7	1504.2	1517.4	1532.2	1529.3
137.5°	1545.3	1563.1	1577.9	1592.6	1588.2
140°	1608.6	1620.5	1636.6	1649.8	1642.5
142.5°	1661.7	1672.1	1691.1	1702.8	1695.5
145°	1717.7	1716.1	1741.1	1751.4	1744.1
147.5°	1766.1	1761.8	1786.7	1794.1	1788.3
150°	1813.3	1803.0	1826.6	1835.3	1828.0
152.5°	1853.0	1841.2	1863.3	1872.2	1861.9
155°	1891.3	1878.1	1895.7	1904.5	1892.8
157.5°	1922.2	1910.5	1923.7	1934.1	1922.2
160°	1948.8	1939.8	1948.8	1957.5	1947.1
162.5°	1972.2	1963.4	1970.7	1981.1	1967.8
165°	1992.8	1984.1	1988.4	1998.7	1988.4
167.5°	2009.1	2000.1	2004.7	2015.0	2001.7
170°	2022.3	2013.4	2016.4	2026.7	2013.4
172.5°	2031.1	2022.3	2025.3	2035.6	2022.3
175°	2038.4	2028.1	2031.1	2041.3	2026.7
177.5°	2041.3	2031.1	2032.6	2043.0	2029.6
180°	2034.0	2034.0	2034.0	2034.0	2034.0



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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	7.59	8.35	8.66	9.41	10.87	7.17	7.92	8.23	8.99	10.44
	3H	9.24	9.91	10.31	10.99	12.46	8.77	9.44	9.84	10.52	11.99
	4H	9.81	10.45	10.90	11.53	13.01	9.35	9.98	10.43	11.06	12.54
	6H	10.20	10.79	11.30	11.87	13.36	9.73	10.32	10.83	11.40	12.89
	8H	10.30	10.86	11.40	11.96	13.44	9.83	10.39	10.93	11.49	12.97
	12H	10.34	10.87	11.44	11.96	13.47	9.87	10.40	10.97	11.49	13.00
4H	2H	8.04	8.68	9.13	9.76	11.23	7.70	8.34	8.79	9.41	10.89
	3H	9.88	10.42	10.98	11.52	13.01	9.50	10.03	10.60	11.13	12.62
	4H	10.59	11.08	11.69	12.17	13.68	10.19	10.67	11.29	11.77	13.28
	6H	11.09	11.51	12.20	12.63	14.13	10.68	11.10	11.80	12.22	13.72
	8H	11.23	11.62	12.34	12.73	14.25	10.82	11.22	11.94	12.33	13.85
	12H	11.29	11.65	12.42	12.77	14.30	10.88	11.23	12.01	12.36	13.88
8H	4H	10.77	11.16	11.88	12.27	13.79	10.41	10.81	11.53	11.92	13.44
	6H	11.39	11.71	12.52	12.86	14.38	11.03	11.35	12.16	12.50	14.02
	8H	11.60	11.88	12.74	13.02	14.55	11.24	11.52	12.38	12.65	14.19
	12H	11.72	11.97	12.86	13.10	14.67	11.34	11.59	12.49	12.72	14.29
12H	4H	10.75	11.11	11.88	12.23	13.75	10.40	10.76	11.53	11.88	13.40
	6H	11.41	11.70	12.55	12.83	14.37	11.07	11.35	12.21	12.48	14.02
	8H	11.64	11.89	12.79	13.02	14.59	11.29	11.54	12.43	12.67	14.24

END OF REPORT