

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: P907159

Luminaire Tested: DFN2DIP-TR3F0-050D070US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907159
REPORT IS A COMBINATION OF REPORTS P901852 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-050D070US835-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

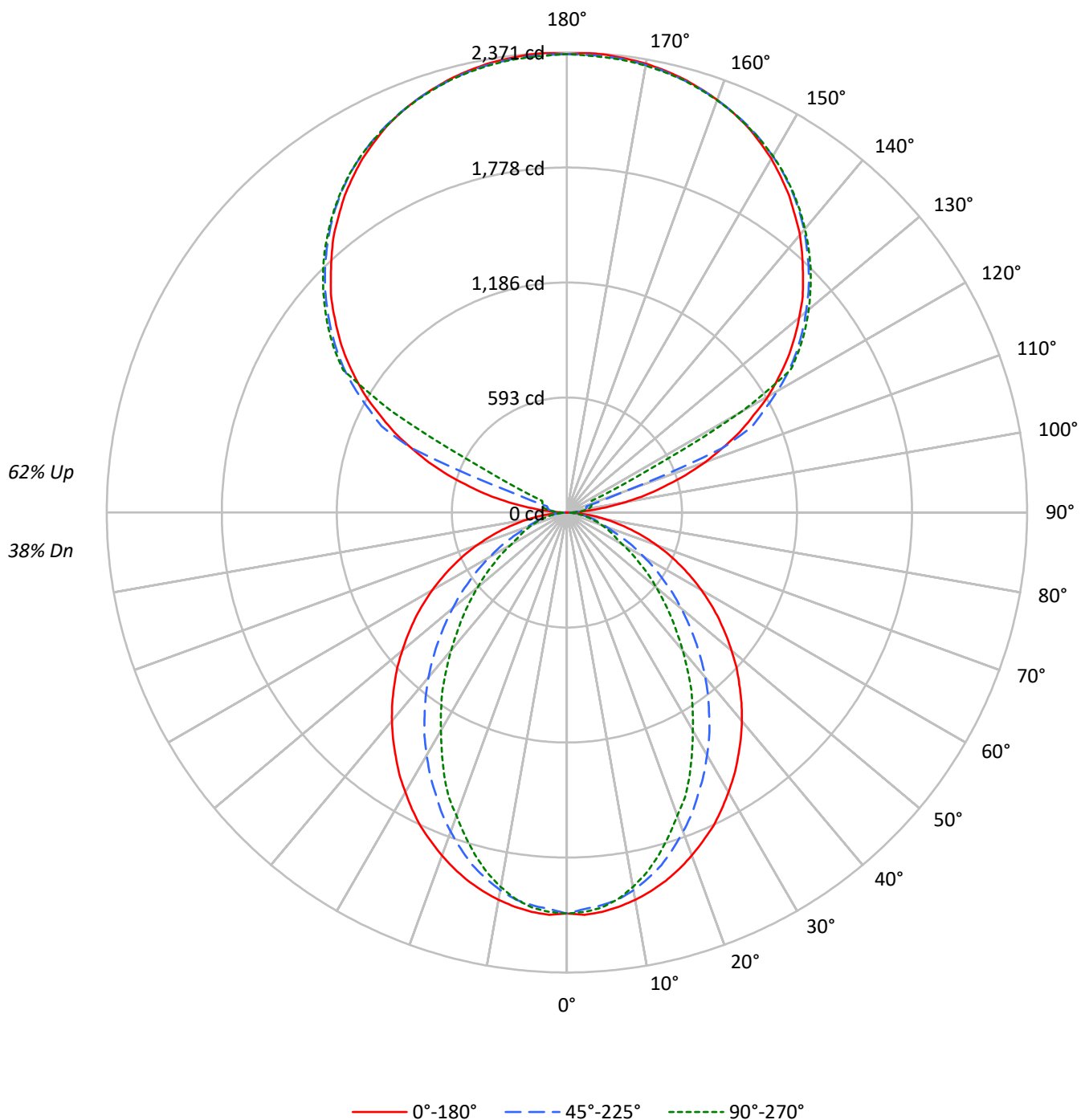
Lumens per Lamp: N/A
Luminaire Lumens: 11180.0 lumens
Efficiency: N/A
Efficacy: 113.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 98.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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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	95	95	95	95	77	77	77	60	60	60	45	45	45
1	95	91	88	84	87	83	80	77	68	66	64	54	52	51	40	40	39
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	35	33
3	80	71	64	58	72	65	59	54	53	49	45	42	39	37	32	30	29
4	73	63	55	50	66	57	51	46	47	42	39	38	34	32	29	27	25
5	67	56	48	43	61	51	45	40	42	37	34	34	31	28	26	24	22
6	62	50	43	37	56	46	39	34	38	33	29	31	27	24	24	22	20
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	18
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16
9	50	38	31	26	45	35	28	24	29	24	21	24	20	18	19	16	14
10	46	35	28	23	42	32	26	22	27	22	19	22	18	16	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2575	2575	2575
5°	2578	2532	2549
10°	2551	2480	2464
15°	2514	2396	2334
20°	2466	2281	2176
25°	2417	2153	2022
30°	2352	2021	1829
35°	2288	1880	1659
40°	2223	1734	1464
45°	2147	1572	1287
50°	2068	1409	1115
55°	1986	1235	950
60°	1891	1054	780
65°	1781	869	700
70°	1649	698	631
75°	1482	610	571
80°	1240	505	489
85°	844	327	358

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2147 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	1.7
10°-20°	531.7	4.8
20°-30°	746.5	6.7
30°-40°	813.7	7.3
40°-50°	747.9	6.7
50°-60°	587.3	5.3
60°-70°	382.3	3.4
70°-80°	196.8	1.8
80°-90°	54.4	0.5
90°-100°	77.9	0.7
100°-110°	290.4	2.6
110°-120°	770.2	6.9
120°-130°	1277.4	11.4
130°-140°	1356.9	12.1
140°-150°	1261.1	11.3
150°-160°	1013.9	9.1
160°-170°	653.3	5.8
170°-180°	224.9	2.0
0°-30°	1471.8	13.2
0°-40°	2285.5	20.4
0°-60°	3620.7	32.4
0°-90°	4254.2	38.1
90°-120°	1138.5	10.2
90°-150°	5033.8	45.0
90°-180°	6926.0	61.9
0°-180°	11180.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2066	2066	2066	2066	2066	
5°	2066	2057	2033	2050	2044	196
15°	1966	1945	1881	1846	1827	554
25°	1784	1724	1601	1524	1496	821
35°	1537	1442	1277	1160	1118	962
45°	1257	1131	935	802	757	971
55°	956	810	608	496	460	854
65°	645	494	325	262	256	640
75°	344	213	150	136	135	364
85°	80	41	36	36	36	92
90°	2	20	34	43	46	10
95°	111	55	67	75	74	131
105°	520	571	104	123	130	555
115°	983	1012	1055	263	140	968
125°	1390	1412	1444	1456	1462	1239
135°	1720	1747	1762	1780	1776	1328
145°	1995	1993	2022	2034	2026	1248
155°	2197	2181	2202	2212	2198	1012
165°	2314	2304	2309	2321	2309	654
175°	2368	2356	2359	2371	2354	225
180°	2362	2362	2362	2362	2362	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2066.5	2066.5	2066.5	2066.5	2066.5
2.5°	2075.8	2066.5	2045.9	2064.7	2060.9
5°	2066.5	2057.2	2032.8	2049.6	2044.1
7.5°	2049.6	2038.5	2012.3	2019.7	2010.3
10°	2027.2	2014.1	1976.8	1971.1	1959.9
12.5°	1999.2	1982.4	1931.8	1920.7	1900.0
15°	1965.5	1944.9	1881.4	1845.9	1827.2
17.5°	1926.2	1896.3	1817.7	1776.6	1746.6
20°	1881.4	1843.9	1750.4	1703.8	1662.5
22.5°	1832.8	1789.7	1681.2	1617.7	1589.7
25°	1784.1	1724.2	1600.8	1524.2	1496.0
27.5°	1726.2	1662.5	1526.0	1438.1	1395.1
30°	1664.5	1593.3	1443.7	1348.4	1297.8
32.5°	1604.6	1518.5	1365.3	1253.0	1206.2
35°	1537.3	1441.9	1277.4	1159.5	1118.3
37.5°	1471.8	1368.9	1195.1	1065.9	1019.3
40°	1402.6	1290.5	1108.9	976.2	927.6
42.5°	1331.6	1211.9	1023.0	884.5	837.9
45°	1256.8	1131.4	935.1	802.2	757.3
47.5°	1185.7	1053.0	851.0	718.1	677.0
50°	1107.2	974.4	768.7	639.5	600.4
52.5°	1030.4	890.1	690.1	566.7	531.2
55°	955.6	809.7	607.7	495.6	460.1
57.5°	879.0	729.4	534.9	430.2	400.2
60°	800.4	650.8	458.1	362.9	332.9
62.5°	723.8	574.2	392.7	303.0	288.1
65°	645.2	493.7	325.4	261.9	256.2
67.5°	570.4	418.9	261.9	230.0	224.4
70°	491.9	346.0	216.9	198.2	190.7
72.5°	417.1	278.6	181.4	166.5	162.7
75°	344.1	213.1	149.6	136.5	134.7
77.5°	271.2	151.4	117.9	110.3	106.5
80°	203.8	108.5	89.7	82.3	82.3
82.5°	142.1	73.0	61.7	57.9	57.9
85°	80.4	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
90°	1.6	20.5	34.1	42.8	46.1
92.5°	42.8	35.9	41.0	44.5	46.1
95°	111.0	54.6	66.6	75.3	73.5
97.5°	199.9	59.9	87.1	92.4	94.0
100°	302.7	68.4	97.4	111.0	114.5
102.5°	415.3	412.1	100.9	119.6	124.8
105°	519.7	571.0	104.3	123.0	129.9
107.5°	641.0	683.7	107.8	126.5	133.4
110°	757.4	793.1	299.2	128.3	135.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	866.8	897.4	868.4	131.5	136.8
115°	982.9	1011.9	1054.7	263.3	140.3
117.5°	1083.8	1117.9	1147.1	902.5	454.7
120°	1196.6	1222.2	1253.1	1273.6	1042.8
122.5°	1292.2	1319.6	1354.0	1364.1	1365.9
125°	1389.7	1412.0	1444.5	1456.5	1461.5
127.5°	1478.6	1502.5	1528.3	1545.4	1547.0
130°	1562.4	1589.8	1608.5	1627.4	1625.8
132.5°	1647.9	1670.2	1688.9	1704.3	1702.7
135°	1719.7	1747.1	1762.4	1779.6	1776.2
137.5°	1794.8	1815.4	1832.6	1849.7	1844.6
140°	1868.3	1882.1	1900.8	1916.2	1907.7
142.5°	1930.0	1942.0	1964.1	1977.7	1969.2
145°	1995.0	1993.2	2022.2	2034.2	2025.7
147.5°	2051.2	2046.2	2075.2	2083.7	2077.0
150°	2106.0	2094.1	2121.5	2131.6	2123.1
152.5°	2152.1	2138.5	2164.1	2174.4	2162.5
155°	2196.6	2181.3	2201.8	2212.0	2198.4
157.5°	2232.5	2218.9	2234.3	2246.3	2232.5
160°	2263.4	2253.0	2263.4	2273.5	2261.5
162.5°	2290.6	2280.4	2288.9	2300.9	2285.5
165°	2314.5	2304.4	2309.4	2321.4	2309.4
167.5°	2333.4	2323.0	2328.3	2340.3	2324.9
170°	2348.8	2338.5	2341.9	2353.9	2338.5
172.5°	2359.0	2348.8	2352.3	2364.2	2348.8
175°	2367.5	2355.5	2359.0	2370.9	2353.9
177.5°	2370.9	2359.0	2360.8	2372.8	2357.3
180°	2362.4	2362.4	2362.4	2362.4	2362.4

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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	9.15	9.89	10.21	10.95	12.39	5.13	5.87	6.19	6.93	8.36
	3H	10.81	11.48	11.88	12.54	14.00	6.31	6.97	7.38	8.04	9.49
	4H	11.41	12.04	12.49	13.11	14.57	6.75	7.38	7.83	8.45	9.91
	6H	11.82	12.40	12.91	13.47	14.94	7.06	7.64	8.15	8.71	10.18
	8H	11.94	12.49	13.04	13.58	15.05	7.15	7.69	8.24	8.78	10.25
	12H	12.00	12.52	13.09	13.60	15.09	7.18	7.70	8.28	8.79	10.28
4H	2H	9.16	9.79	10.25	10.86	12.32	5.71	6.34	6.80	7.41	8.87
	3H	10.97	11.49	12.06	12.59	14.06	7.04	7.57	8.14	8.66	10.14
	4H	11.65	12.13	12.75	13.22	14.71	7.58	8.06	8.68	9.15	10.64
	6H	12.15	12.56	13.26	13.67	15.16	7.99	8.40	9.10	9.51	11.00
	8H	12.32	12.70	13.43	13.81	15.31	8.12	8.50	9.22	9.60	11.10
	12H	12.41	12.75	13.53	13.87	15.37	8.17	8.52	9.30	9.63	11.14
8H	4H	11.61	11.99	12.72	13.10	14.60	7.85	8.24	8.96	9.34	10.84
	6H	12.16	12.48	13.29	13.62	15.12	8.36	8.68	9.49	9.82	11.32
	8H	12.37	12.65	13.51	13.78	15.29	8.55	8.82	9.68	9.95	11.47
	12H	12.50	12.74	13.64	13.87	15.42	8.66	8.90	9.79	10.02	11.58
12H	4H	11.56	11.90	12.68	13.02	14.53	7.85	8.20	8.97	9.31	10.82
	6H	12.14	12.41	13.27	13.54	15.06	8.41	8.68	9.54	9.81	11.33
	8H	12.35	12.59	13.49	13.71	15.27	8.61	8.85	9.74	9.97	11.53