

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: P920826

Luminaire Tested: DFN2DIP-TR3F0-060D080US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920826
REPORT IS A COMBINATION OF REPORTS P900347 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-060D080US935-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

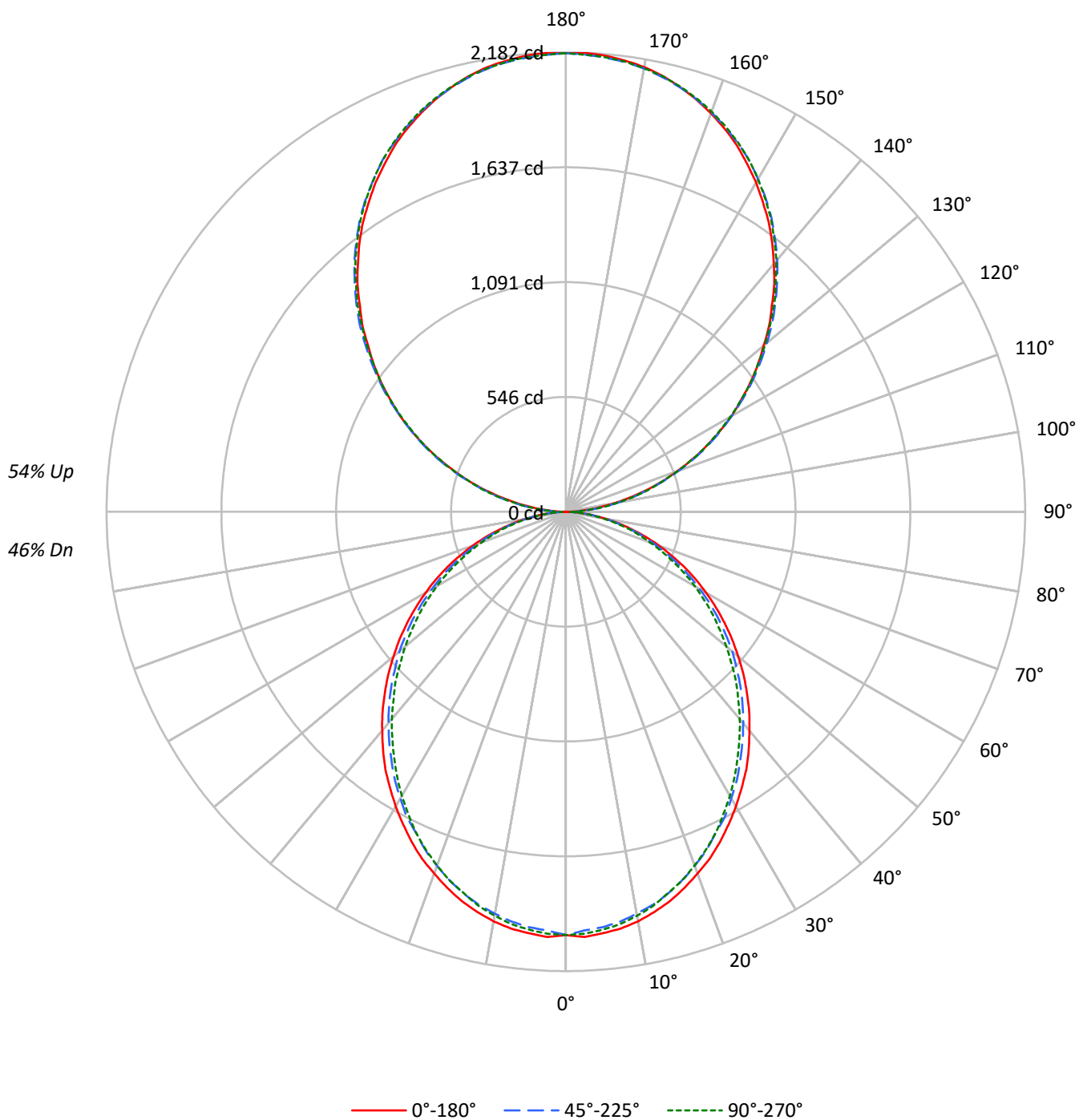
Lumens per Lamp: N/A
Luminaire Lumens: 11210.2 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 118.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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
RCR																	
0	106	106	106	106	97	97	97	97	81	81	81		66	66	66		52
1	97	93	89	85	89	85	82	79	71	69	66		58	56	55		46
2	88	81	75	70	81	74	69	65	62	58	55		51	48	46		41
3	80	71	64	58	73	65	59	54	55	50	46		45	42	39		36
4	74	63	55	49	67	58	51	46	49	43	39		40	36	33		32
5	67	56	48	42	62	52	45	39	44	38	34		36	32	29		29
6	62	50	42	36	57	46	39	34	39	34	30		33	28	25		26
7	57	45	37	32	53	42	35	30	36	30	26		30	25	22		24
8	53	41	33	28	49	38	31	26	32	27	23		27	23	20		22
9	50	37	30	25	45	35	28	24	30	24	21		25	21	18		20
10	46	34	27	22	42	32	25	21	27	22	19		23	19	16		19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2505	2505	2505
5°	2507	2468	2485
10°	2486	2432	2450
15°	2448	2390	2395
20°	2397	2332	2340
25°	2346	2264	2276
30°	2283	2200	2195
35°	2224	2125	2110
40°	2150	2049	2029
45°	2077	1972	1945
50°	1997	1892	1849
55°	1912	1799	1760
60°	1817	1690	1658
65°	1713	1575	1538
70°	1581	1436	1408
75°	1398	1269	1286
80°	1177	1056	1057
85°	830	695	683

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2127 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.2	1.7
10°-20°	532.3	4.7
20°-30°	782.3	7.0
30°-40°	908.6	8.1
40°-50°	907.5	8.1
50°-60°	791.3	7.1
60°-70°	584.9	5.2
70°-80°	330.9	3.0
80°-90°	93.5	0.8
90°-100°	134.8	1.2
100°-110°	428.3	3.8
110°-120°	733.0	6.5
120°-130°	964.0	8.6
130°-140°	1082.0	9.7
140°-150°	1061.0	9.5
150°-160°	890.1	7.9
160°-170°	590.3	5.3
170°-180°	206.3	1.8
0°-30°	1503.8	13.4
0°-40°	2412.4	21.5
0°-60°	4111.1	36.7
0°-90°	5120.5	45.7
90°-120°	1296.1	11.6
90°-150°	4403.1	39.3
90°-180°	6090.0	54.3
0°-180°	11210.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2010	2010	2010	2010	2010	
5°	2010	2002	1981	1997	1993	191
15°	1914	1902	1877	1885	1875	539
25°	1732	1716	1684	1687	1684	797
35°	1494	1475	1444	1432	1422	933
45°	1216	1202	1173	1152	1144	938
55°	920	908	885	862	852	823
65°	620	609	590	572	562	614
75°	325	321	311	300	304	347
85°	79	77	75	70	68	88
90°	2	24	64	60	62	11
95°	96	114	118	118	114	107
105°	395	401	405	408	408	417
115°	736	746	743	741	736	728
125°	1070	1086	1081	1075	1073	956
135°	1384	1404	1408	1406	1401	1070
145°	1680	1693	1704	1706	1698	1050
155°	1921	1926	1932	1941	1935	884
165°	2090	2088	2088	2101	2092	590
175°	2174	2169	2165	2178	2167	207
180°	2178	2178	2178	2178	2178	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2010.1	2010.1	2010.1	2010.1	2010.1
2.5°	2021.8	2012.2	1990.8	2010.1	2006.4
5°	2010.1	2002.5	1981.2	1996.6	1992.9
7.5°	1996.6	1985.1	1963.8	1979.3	1975.5
10°	1975.5	1962.0	1938.7	1954.1	1948.4
12.5°	1946.4	1934.8	1911.7	1921.3	1917.4
15°	1913.5	1902.0	1876.8	1884.6	1875.0
17.5°	1872.9	1861.5	1836.3	1845.8	1836.3
20°	1828.4	1817.0	1789.8	1795.6	1788.0
22.5°	1784.2	1766.7	1741.5	1741.5	1737.6
25°	1731.8	1716.5	1683.6	1687.3	1683.6
27.5°	1673.8	1660.3	1635.2	1629.5	1619.9
30°	1616.0	1600.3	1571.5	1565.7	1557.9
32.5°	1554.0	1542.6	1511.6	1499.9	1492.1
35°	1494.2	1474.9	1443.9	1432.2	1422.5
37.5°	1426.5	1409.0	1378.1	1364.5	1354.9
40°	1356.9	1341.3	1310.4	1293.2	1285.4
42.5°	1289.3	1273.7	1242.9	1223.5	1211.9
45°	1215.9	1202.3	1173.2	1152.1	1144.3
47.5°	1144.3	1130.7	1099.8	1078.5	1066.9
50°	1068.8	1059.2	1032.2	1005.0	995.4
52.5°	995.4	981.9	956.8	935.6	922.0
55°	920.1	908.4	885.3	862.1	852.5
57.5°	844.7	835.1	809.9	786.7	778.9
60°	769.2	761.6	734.6	713.3	707.5
62.5°	695.8	682.3	663.0	643.7	635.9
65°	620.5	608.9	589.6	572.1	562.5
67.5°	543.2	533.4	516.2	502.7	494.8
70°	471.7	463.9	446.4	432.9	425.3
72.5°	398.2	390.5	380.8	367.3	361.5
75°	324.6	321.0	311.1	299.6	303.5
77.5°	259.0	251.2	247.3	241.6	235.8
80°	193.4	191.3	187.4	181.7	177.8
82.5°	131.5	131.5	129.6	121.8	121.8
85°	79.1	77.3	75.4	69.5	67.7
87.5°	34.9	31.0	27.0	21.4	19.3
90°	2.0	23.7	64.4	60.4	62.4
92.5°	40.7	55.2	57.2	59.1	59.1
95°	95.9	114.3	117.5	117.5	114.3
97.5°	159.6	176.7	183.9	183.9	183.9
100°	233.2	248.2	253.5	253.5	251.5
102.5°	310.6	321.8	329.0	331.0	329.0
105°	395.4	400.6	404.6	407.9	407.9
107.5°	479.4	487.3	487.3	488.6	479.4
110°	560.9	571.4	571.4	571.4	566.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	648.8	660.0	658.1	652.8	648.8
115°	735.6	746.1	742.8	740.8	735.6
117.5°	821.6	836.0	826.8	821.6	816.3
120°	908.3	922.7	908.3	908.3	902.3
122.5°	987.0	1005.5	996.3	991.0	987.0
125°	1069.8	1086.2	1081.0	1075.0	1073.1
127.5°	1150.6	1171.0	1163.7	1155.9	1150.6
130°	1226.1	1249.7	1246.5	1242.6	1235.4
132.5°	1310.9	1329.2	1330.6	1321.4	1316.1
135°	1383.7	1404.1	1408.1	1406.1	1400.8
137.5°	1465.2	1481.6	1484.9	1483.6	1475.7
140°	1536.8	1553.2	1562.4	1562.4	1555.1
142.5°	1610.3	1626.8	1632.0	1634.0	1626.8
145°	1680.0	1693.1	1703.6	1705.6	1698.3
147.5°	1742.3	1758.8	1766.6	1770.0	1762.7
150°	1806.7	1817.8	1825.1	1831.0	1825.1
152.5°	1863.8	1875.0	1884.2	1891.4	1884.2
155°	1921.0	1926.2	1932.2	1941.3	1935.4
157.5°	1970.2	1974.2	1977.5	1990.5	1981.4
160°	2014.2	2018.2	2020.2	2031.3	2023.4
162.5°	2054.9	2054.9	2056.9	2069.4	2060.2
165°	2089.7	2087.7	2087.7	2100.9	2091.7
167.5°	2121.2	2115.4	2115.4	2128.5	2119.3
170°	2144.9	2139.7	2137.7	2150.9	2139.7
172.5°	2161.4	2156.1	2154.1	2167.2	2156.1
175°	2174.5	2169.2	2165.2	2178.4	2167.2
177.5°	2181.7	2176.4	2172.5	2183.7	2172.5
180°	2178.4	2178.4	2178.4	2178.4	2178.4

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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	10.00	10.82	10.99	11.82	13.16	9.57	10.39	10.56	11.40	12.73
	3H	11.64	12.38	12.65	13.40	14.75	11.18	11.91	12.18	12.93	14.28
	4H	12.22	12.92	13.24	13.94	15.30	11.76	12.45	12.77	13.47	14.83
	6H	12.61	13.26	13.64	14.28	15.65	12.14	12.79	13.17	13.81	15.18
	8H	12.71	13.33	13.75	14.37	15.73	12.25	12.86	13.28	13.90	15.27
	12H	12.76	13.34	13.80	14.37	15.77	12.28	12.87	13.32	13.90	15.29
4H	2H	10.45	11.15	11.47	12.17	13.53	10.11	10.81	11.13	11.82	13.18
	3H	12.30	12.88	13.33	13.93	15.30	11.91	12.50	12.94	13.54	14.91
	4H	13.01	13.54	14.04	14.58	15.97	12.60	13.14	13.64	14.18	15.57
	6H	13.51	13.97	14.56	15.03	16.42	13.11	13.57	14.15	14.63	16.02
	8H	13.65	14.08	14.70	15.14	16.54	13.25	13.68	14.30	14.73	16.14
	12H	13.72	14.11	14.79	15.18	16.59	13.31	13.69	14.37	14.76	16.17
8H	4H	13.20	13.63	14.25	14.68	16.09	12.84	13.27	13.89	14.32	15.73
	6H	13.81	14.17	14.89	15.26	16.67	13.46	13.81	14.53	14.91	16.31
	8H	14.03	14.34	15.11	15.42	16.84	13.66	13.98	14.74	15.06	16.48
	12H	14.15	14.43	15.24	15.50	16.97	13.77	14.05	14.86	15.12	16.59
12H	4H	13.18	13.57	14.25	14.63	16.05	12.83	13.22	13.90	14.29	15.70
	6H	13.84	14.15	14.92	15.23	16.66	13.49	13.81	14.57	14.89	16.31
	8H	14.08	14.35	15.16	15.42	16.89	13.72	14.00	14.81	15.07	16.54

END OF REPORT