

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: P907152

Luminaire Tested: DFN2DIP-TR3F0-050D060US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907152
REPORT IS A COMBINATION OF REPORTS P900317 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-050D060US835-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

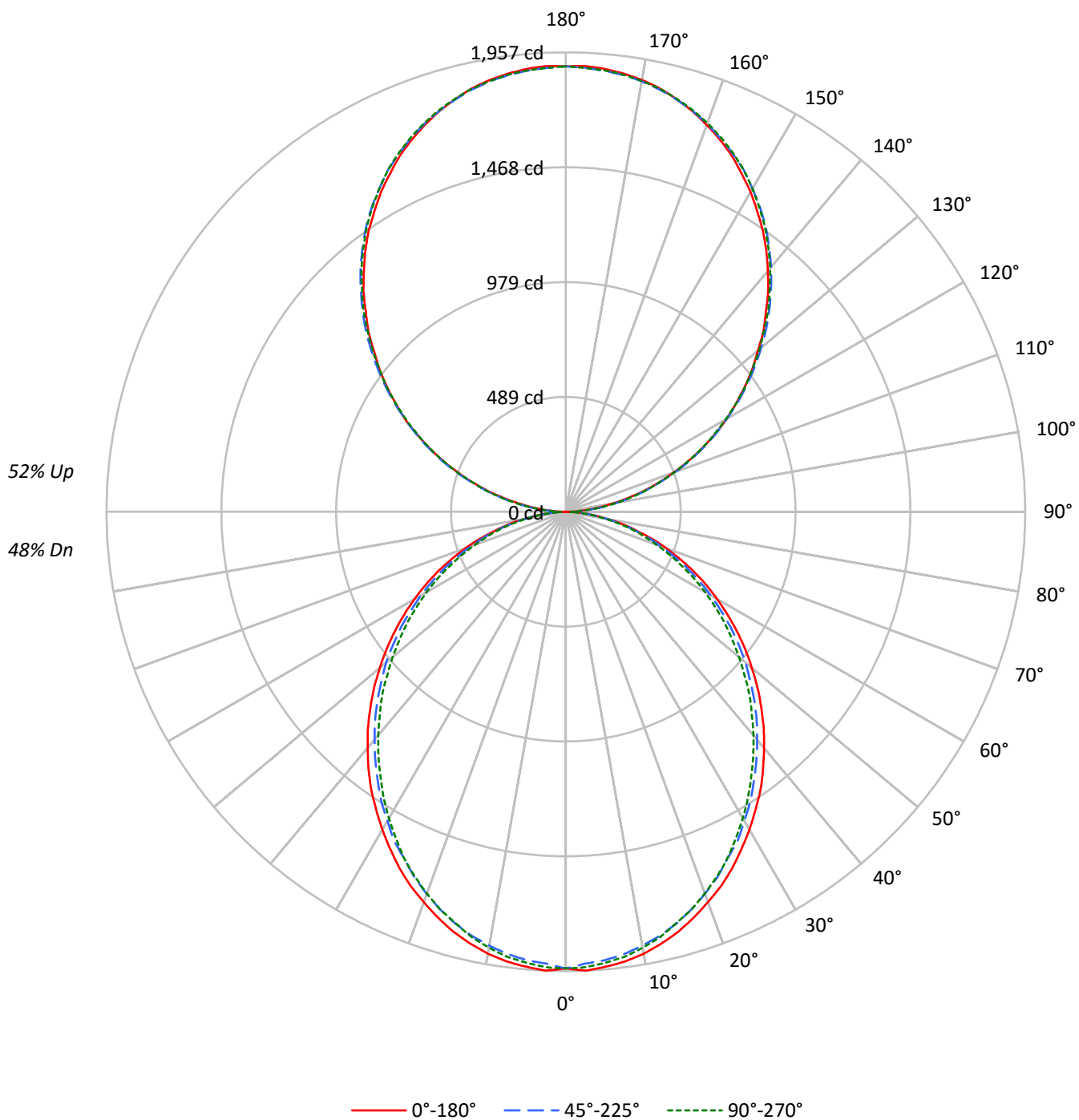
Lumens per Lamp: N/A
Luminaire Lumens: 10260.0 lumens
Efficiency: N/A
Efficacy: 113.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 90.5
Input Voltage (V): 120
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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55
1	97	93	89	86	89	86	82	79	72	70	68	60	58	57	48	47	46
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	41	39
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	38	35	33
4	74	63	55	49	68	59	52	46	50	44	40	41	37	34	34	31	28
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	27	24	22
7	58	46	38	32	53	42	35	30	36	31	27	30	26	23	25	22	19
8	54	41	34	28	49	39	32	27	33	28	24	28	24	20	23	20	17
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2424	2424	2424
5°	2427	2388	2405
10°	2406	2354	2371
15°	2369	2313	2318
20°	2320	2258	2265
25°	2271	2191	2203
30°	2210	2129	2125
35°	2152	2056	2042
40°	2081	1983	1964
45°	2010	1909	1883
50°	1933	1831	1790
55°	1851	1741	1704
60°	1759	1635	1605
65°	1658	1525	1488
70°	1530	1390	1363
75°	1353	1228	1245
80°	1139	1022	1023
85°	804	673	660

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2010 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.1	1.8
10°-20°	515.2	5.0
20°-30°	757.2	7.4
30°-40°	879.4	8.6
40°-50°	878.3	8.6
50°-60°	765.8	7.5
60°-70°	566.1	5.5
70°-80°	320.3	3.1
80°-90°	89.9	0.9
90°-100°	117.4	1.1
100°-110°	373.1	3.6
110°-120°	638.5	6.2
120°-130°	839.7	8.2
130°-140°	942.5	9.2
140°-150°	924.2	9.0
150°-160°	775.3	7.6
160°-170°	514.2	5.0
170°-180°	179.7	1.8
0°-30°	1455.5	14.2
0°-40°	2334.9	22.8
0°-60°	3979.0	38.8
0°-90°	4955.4	48.3
90°-120°	1129.0	11.0
90°-150°	3835.4	37.4
90°-180°	5305.0	51.7
0°-180°	10260.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1946	1946	1946	1946	1946	
5°	1946	1938	1918	1932	1929	185
15°	1852	1841	1816	1824	1815	522
25°	1676	1661	1630	1633	1630	771
35°	1446	1428	1398	1386	1377	903
45°	1177	1164	1136	1115	1108	908
55°	891	879	857	834	825	796
65°	601	589	571	554	544	594
75°	314	311	301	290	294	335
85°	77	75	73	67	66	85
90°	2	21	56	53	54	10
95°	84	100	102	102	100	93
105°	344	349	352	355	355	363
115°	641	650	647	645	641	634
125°	932	946	942	936	935	833
135°	1205	1223	1226	1225	1220	932
145°	1463	1475	1484	1486	1479	914
155°	1673	1678	1683	1691	1686	770
165°	1820	1819	1819	1830	1822	514
175°	1894	1890	1886	1898	1888	180
180°	1898	1898	1898	1898	1898	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1945.5	1945.5	1945.5	1945.5	1945.5
2.5°	1956.8	1947.5	1926.9	1945.5	1942.0
5°	1945.5	1938.2	1917.5	1932.4	1928.9
7.5°	1932.4	1921.3	1900.7	1915.8	1912.0
10°	1912.0	1898.9	1876.5	1891.3	1885.8
12.5°	1883.8	1872.7	1850.3	1859.6	1855.8
15°	1852.0	1840.9	1816.5	1824.1	1814.7
17.5°	1812.7	1801.6	1777.2	1786.5	1777.2
20°	1769.7	1758.6	1732.4	1737.9	1730.6
22.5°	1726.8	1709.9	1685.5	1685.5	1681.7
25°	1676.2	1661.3	1629.5	1633.1	1629.5
27.5°	1620.0	1606.9	1582.7	1577.1	1567.8
30°	1564.0	1549.0	1521.0	1515.4	1507.9
32.5°	1504.1	1493.0	1463.0	1451.7	1444.2
35°	1446.1	1427.5	1397.5	1386.2	1376.9
37.5°	1380.6	1363.8	1333.8	1320.7	1311.4
40°	1313.4	1298.3	1268.3	1251.6	1244.1
42.5°	1247.9	1232.8	1203.0	1184.1	1173.0
45°	1176.8	1163.7	1135.5	1115.1	1107.5
47.5°	1107.5	1094.4	1064.5	1043.8	1032.7
50°	1034.5	1025.2	999.0	972.8	963.4
52.5°	963.4	950.3	926.1	905.5	892.4
55°	890.6	879.3	856.8	834.4	825.1
57.5°	817.5	808.2	783.8	761.4	753.8
60°	744.5	737.2	711.0	690.3	684.8
62.5°	673.5	660.4	641.7	623.0	615.5
65°	600.6	589.3	570.6	553.8	544.4
67.5°	525.8	516.3	499.6	486.5	478.9
70°	456.5	449.0	432.1	419.0	411.7
72.5°	385.5	377.9	368.6	355.5	349.9
75°	314.2	310.6	301.1	290.0	293.8
77.5°	250.7	243.1	239.4	233.8	228.3
80°	187.2	185.2	181.4	175.9	172.1
82.5°	127.2	127.2	125.4	117.9	117.9
85°	76.6	74.8	73.0	67.3	65.5
87.5°	33.7	30.0	26.2	20.6	18.7
90°	1.7	20.6	56.1	52.6	54.3
92.5°	35.5	48.1	49.8	51.5	51.5
95°	83.5	99.5	102.4	102.4	99.5
97.5°	139.0	153.9	160.2	160.2	160.2
100°	203.1	216.2	220.8	220.8	219.1
102.5°	270.6	280.3	286.6	288.3	286.6
105°	344.4	349.0	352.4	355.3	355.3
107.5°	417.6	424.5	424.5	425.6	417.6
110°	488.6	497.7	497.7	497.7	493.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	565.2	574.9	573.2	568.6	565.2
115°	640.7	649.9	647.0	645.3	640.7
117.5°	715.7	728.3	720.2	715.7	711.1
120°	791.2	803.8	791.2	791.2	786.0
122.5°	859.8	875.8	867.8	863.3	859.8
125°	931.9	946.2	941.6	936.5	934.8
127.5°	1002.3	1020.0	1013.7	1006.9	1002.3
130°	1068.1	1088.7	1085.8	1082.4	1076.1
132.5°	1141.9	1157.9	1159.0	1151.0	1146.4
135°	1205.4	1223.1	1226.5	1224.8	1220.2
137.5°	1276.3	1290.6	1293.5	1292.3	1285.5
140°	1338.7	1353.0	1361.0	1361.0	1354.7
142.5°	1402.7	1417.0	1421.6	1423.3	1417.0
145°	1463.4	1474.8	1484.0	1485.7	1479.4
147.5°	1517.7	1532.0	1538.9	1541.7	1535.4
150°	1573.8	1583.5	1589.8	1594.9	1589.8
152.5°	1623.5	1633.3	1641.3	1647.6	1641.3
155°	1673.3	1677.9	1683.0	1691.1	1685.9
157.5°	1716.2	1719.7	1722.5	1734.0	1726.0
160°	1754.6	1758.0	1759.7	1769.4	1762.6
162.5°	1790.0	1790.0	1791.7	1802.6	1794.6
165°	1820.3	1818.6	1818.6	1830.1	1822.1
167.5°	1847.8	1842.7	1842.7	1854.1	1846.1
170°	1868.4	1863.8	1862.1	1873.5	1863.8
172.5°	1882.7	1878.1	1876.4	1887.8	1878.1
175°	1894.1	1889.6	1886.1	1897.6	1887.8
177.5°	1900.4	1895.9	1892.4	1902.1	1892.4
180°	1897.6	1897.6	1897.6	1897.6	1897.6

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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	10.14	10.98	11.11	11.97	13.26	9.71	10.55	10.68	11.54	12.83
	3H	11.79	12.54	12.77	13.54	14.86	11.32	12.08	12.30	13.07	14.39
	4H	12.37	13.08	13.36	14.08	15.41	11.90	12.62	12.89	13.62	14.94
	6H	12.76	13.42	13.76	14.42	15.76	12.29	12.95	13.30	13.95	15.29
	8H	12.86	13.49	13.87	14.51	15.84	12.39	13.02	13.40	14.04	15.37
	12H	12.90	13.50	13.92	14.52	15.87	12.43	13.03	13.45	14.04	15.40
4H	2H	10.59	11.31	11.59	12.31	13.63	10.25	10.97	11.25	11.97	13.29
	3H	12.45	13.05	13.46	14.07	15.41	12.06	12.66	13.07	13.68	15.02
	4H	13.15	13.70	14.17	14.72	16.08	12.75	13.30	13.77	14.32	15.68
	6H	13.66	14.13	14.69	15.17	16.53	13.25	13.73	14.28	14.77	16.13
	8H	13.80	14.24	14.83	15.28	16.65	13.40	13.84	14.43	14.87	16.25
	12H	13.87	14.27	14.92	15.32	16.70	13.46	13.85	14.50	14.90	16.28
8H	4H	13.34	13.78	14.37	14.82	16.19	12.99	13.43	14.02	14.46	15.84
	6H	13.96	14.33	15.02	15.41	16.78	13.60	13.97	14.66	15.05	16.42
	8H	14.18	14.50	15.24	15.56	16.95	13.81	14.13	14.88	15.20	16.59
	12H	14.30	14.58	15.37	15.64	17.07	13.92	14.21	14.99	15.26	16.70
12H	4H	13.33	13.73	14.38	14.78	16.16	12.98	13.38	14.03	14.43	15.81
	6H	13.99	14.31	15.05	15.38	16.77	13.64	13.97	14.71	15.03	16.42
	8H	14.23	14.51	15.29	15.57	17.00	13.87	14.16	14.94	15.21	16.64

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

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