

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: P915541

Luminaire Tested: DFN2DIP-TR4F0-060D070US927-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915541
REPORT IS A COMBINATION OF REPORTS P901948 AND P898849
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-060D070US927-RLLONL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

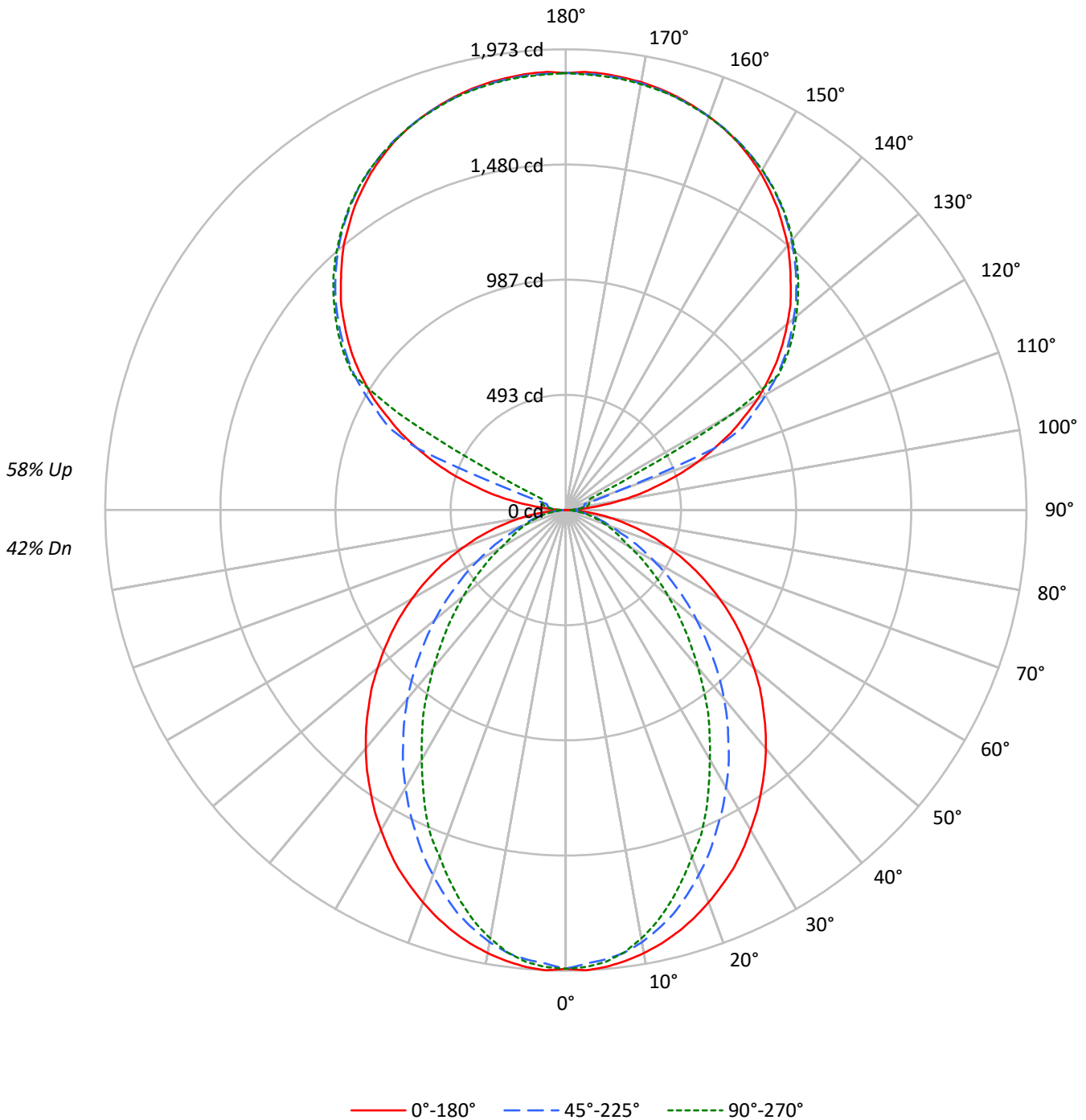
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9529.9 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 105.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	49	49	49	42
1	96	92	89	85	88	85	81	79	70	68	66	56	55	54	44	43	42	42	42	42	37
2	88	81	75	70	80	74	69	65	62	58	55	50	48	45	39	38	36	36	36	36	31
3	81	72	65	59	74	66	60	55	55	50	47	45	42	39	35	33	31	31	31	31	27
4	74	64	56	50	67	59	52	47	49	44	40	40	36	34	32	29	27	27	27	27	24
5	68	57	49	43	62	52	46	40	44	39	35	36	32	29	29	26	24	24	24	24	21
6	63	51	43	38	57	47	40	35	40	34	31	33	29	26	26	23	21	21	21	21	18
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	24	21	19	19	19	19	16
8	54	42	35	29	49	39	32	28	33	28	24	27	24	21	22	19	17	17	17	17	15
9	50	38	31	26	46	36	29	25	30	25	22	25	21	19	21	18	16	16	16	16	13
10	47	35	28	24	43	33	26	22	28	23	20	23	20	17	19	16	14	14	14	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1561	1561	1561
5°	1563	1536	1546
10°	1548	1506	1495
15°	1526	1456	1417
20°	1498	1387	1322
25°	1469	1310	1230
30°	1431	1232	1113
35°	1393	1147	1010
40°	1354	1059	893
45°	1309	962	786
50°	1263	863	682
55°	1214	758	582
60°	1158	649	479
65°	1094	537	431
70°	1015	433	390
75°	917	382	355
80°	775	320	307
85°	540	213	230

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1309 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.1	1.9
10°-20°	505.4	5.3
20°-30°	709.6	7.4
30°-40°	773.5	8.1
40°-50°	710.9	7.5
50°-60°	558.3	5.9
60°-70°	363.4	3.8
70°-80°	187.1	2.0
80°-90°	51.0	0.5
90°-100°	61.7	0.6
100°-110°	230.0	2.4
110°-120°	610.1	6.4
120°-130°	1011.9	10.6
130°-140°	1074.9	11.3
140°-150°	999.0	10.5
150°-160°	803.2	8.4
160°-170°	517.5	5.4
170°-180°	178.1	1.9
0°-30°	1399.1	14.7
0°-40°	2172.6	22.8
0°-60°	3441.9	36.1
0°-90°	4043.4	42.4
90°-120°	901.9	9.5
90°-150°	3987.7	41.8
90°-180°	5487.0	57.6
0°-180°	9529.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1964	1964	1964	1964	1964	
5°	1964	1956	1932	1948	1943	186
15°	1868	1849	1788	1755	1737	527
25°	1696	1639	1522	1449	1422	780
35°	1461	1371	1214	1102	1063	915
45°	1195	1076	889	763	720	923
55°	908	770	578	471	437	812
65°	613	469	309	249	244	608
75°	327	203	142	130	128	346
85°	76	39	34	34	34	88
90°	1	16	27	34	36	9
95°	88	43	53	60	58	104
105°	412	452	83	97	103	440
115°	779	802	836	209	111	767
125°	1101	1119	1144	1154	1158	982
135°	1362	1384	1396	1410	1407	1052
145°	1580	1579	1602	1612	1605	988
155°	1740	1728	1744	1752	1742	802
165°	1834	1826	1830	1839	1830	518
175°	1876	1866	1869	1878	1865	178
180°	1871	1871	1871	1871	1871	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1964.5	1964.5	1964.5	1964.5	1964.5
2.5°	1973.3	1964.5	1944.8	1962.7	1959.1
5°	1964.5	1955.6	1932.4	1948.4	1943.1
7.5°	1948.4	1937.8	1913.0	1919.9	1911.1
10°	1927.1	1914.6	1879.2	1873.7	1863.1
12.5°	1900.5	1884.4	1836.4	1825.8	1806.2
15°	1868.4	1848.8	1788.4	1754.7	1736.9
17.5°	1831.1	1802.6	1727.9	1688.9	1660.4
20°	1788.4	1752.8	1664.0	1619.6	1580.4
22.5°	1742.2	1701.3	1598.1	1537.8	1511.2
25°	1696.1	1639.1	1521.8	1449.0	1422.2
27.5°	1641.0	1580.4	1450.6	1367.1	1326.2
30°	1582.3	1514.6	1372.4	1281.8	1233.7
32.5°	1525.3	1443.5	1297.9	1191.1	1146.6
35°	1461.4	1370.7	1214.3	1102.2	1063.0
37.5°	1399.2	1301.2	1136.1	1013.3	968.9
40°	1333.3	1226.8	1054.2	928.0	881.8
42.5°	1265.8	1152.1	972.5	840.8	796.5
45°	1194.7	1075.5	889.0	762.6	719.9
47.5°	1127.2	1001.0	809.0	682.6	643.6
50°	1052.5	926.3	730.7	607.9	570.8
52.5°	979.5	846.1	656.0	538.7	504.9
55°	908.4	769.8	577.7	471.2	437.4
57.5°	835.6	693.3	508.5	408.9	380.4
60°	760.9	618.7	435.5	345.0	316.5
62.5°	688.1	545.9	373.3	288.0	273.9
65°	613.4	469.3	309.3	249.0	243.5
67.5°	542.2	398.2	249.0	218.6	213.3
70°	467.5	328.9	206.1	188.5	181.3
72.5°	396.5	264.8	172.4	158.3	154.6
75°	327.1	202.6	142.2	129.8	128.1
77.5°	257.9	143.9	112.0	104.9	101.3
80°	193.7	103.1	85.2	78.3	78.3
82.5°	135.1	69.4	58.6	55.1	55.1
85°	76.4	39.1	33.7	33.7	33.7
87.5°	28.5	14.2	14.2	12.4	12.4
90°	1.3	16.2	27.0	33.9	36.5
92.5°	33.9	28.4	32.5	35.3	36.5
95°	87.9	43.3	52.8	59.7	58.2
97.5°	158.4	47.5	69.0	73.2	74.5
100°	239.8	54.2	77.2	87.9	90.7
102.5°	329.0	326.5	79.9	94.7	98.9
105°	411.7	452.3	82.6	97.4	102.9
107.5°	507.8	541.6	85.4	100.2	105.7
110°	600.0	628.3	237.0	101.6	106.9



TEST NUMBER: P915541

CATALOG NUMBER: DFN2DIP-TR4F0-060D070US927-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	686.7	710.9	687.9	104.2	108.4
115°	778.6	801.6	835.5	208.6	111.1
117.5°	858.6	885.6	908.7	714.9	360.2
120°	947.9	968.2	992.7	1008.9	826.1
122.5°	1023.7	1045.4	1072.6	1080.6	1082.0
125°	1100.9	1118.6	1144.3	1153.8	1157.8
127.5°	1171.3	1190.3	1210.7	1224.2	1225.5
130°	1237.7	1259.4	1274.2	1289.2	1287.9
132.5°	1305.4	1323.1	1337.9	1350.1	1348.8
135°	1362.3	1384.0	1396.1	1409.8	1407.1
137.5°	1421.8	1438.1	1451.8	1465.3	1461.3
140°	1480.0	1491.0	1505.8	1518.0	1511.2
142.5°	1528.9	1538.4	1555.9	1566.7	1560.0
145°	1580.4	1579.0	1601.9	1611.5	1604.7
147.5°	1624.9	1621.0	1643.9	1650.7	1645.4
150°	1668.3	1658.9	1680.6	1688.6	1681.9
152.5°	1704.9	1694.1	1714.4	1722.5	1713.1
155°	1740.1	1728.0	1744.2	1752.3	1741.5
157.5°	1768.5	1757.8	1770.0	1779.5	1768.5
160°	1793.0	1784.8	1793.0	1801.0	1791.5
162.5°	1814.6	1806.5	1813.2	1822.7	1810.5
165°	1833.5	1825.5	1829.5	1839.0	1829.5
167.5°	1848.5	1840.2	1844.4	1853.9	1841.7
170°	1860.7	1852.5	1855.2	1864.7	1852.5
172.5°	1868.8	1860.7	1863.4	1872.9	1860.7
175°	1875.5	1866.0	1868.8	1878.2	1864.7
177.5°	1878.2	1868.8	1870.2	1879.7	1867.4
180°	1871.4	1871.4	1871.4	1871.4	1871.4



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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	7.94	8.71	8.96	9.74	11.12	3.91	4.68	4.94	5.71	7.09
	3H	9.61	10.30	10.65	11.34	12.74	5.10	5.79	6.13	6.83	8.22
	4H	10.22	10.87	11.26	11.91	13.32	5.55	6.20	6.59	7.24	8.64
	6H	10.63	11.24	11.69	12.28	13.70	5.86	6.47	6.92	7.51	8.93
	8H	10.76	11.33	11.82	12.39	13.80	5.95	6.53	7.02	7.59	9.00
	12H	10.82	11.36	11.89	12.42	13.85	6.00	6.54	7.06	7.59	9.03
4H	2H	7.95	8.60	9.00	9.64	11.05	4.50	5.15	5.55	6.19	7.60
	3H	9.77	10.32	10.83	11.38	12.80	5.85	6.39	6.91	7.46	8.88
	4H	10.46	10.96	11.53	12.02	13.46	6.39	6.89	7.46	7.95	9.39
	6H	10.97	11.40	12.05	12.48	13.92	6.81	7.24	7.89	8.32	9.75
	8H	11.15	11.55	12.23	12.62	14.07	6.94	7.34	8.02	8.41	9.86
	12H	11.24	11.60	12.34	12.69	14.14	7.00	7.36	8.10	8.45	9.90
8H	4H	10.43	10.82	11.50	11.90	13.35	6.67	7.07	7.75	8.14	9.59
	6H	10.99	11.32	12.09	12.44	13.88	7.19	7.51	8.28	8.63	10.08
	8H	11.21	11.49	12.31	12.59	14.06	7.38	7.67	8.48	8.77	10.23
	12H	11.34	11.60	12.45	12.69	14.20	7.49	7.75	8.60	8.84	10.35
12H	4H	10.38	10.74	11.47	11.82	13.28	6.67	7.03	7.76	8.12	9.57
	6H	10.97	11.25	12.07	12.35	13.82	7.23	7.52	8.34	8.62	10.09
	8H	11.18	11.44	12.29	12.53	14.04	7.44	7.70	8.55	8.79	10.30