

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: P915548

Luminaire Tested: DFN2DIP-TR4F0-060D090US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915548
REPORT IS A COMBINATION OF REPORTS P900464 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-060D090US927-RLLFLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

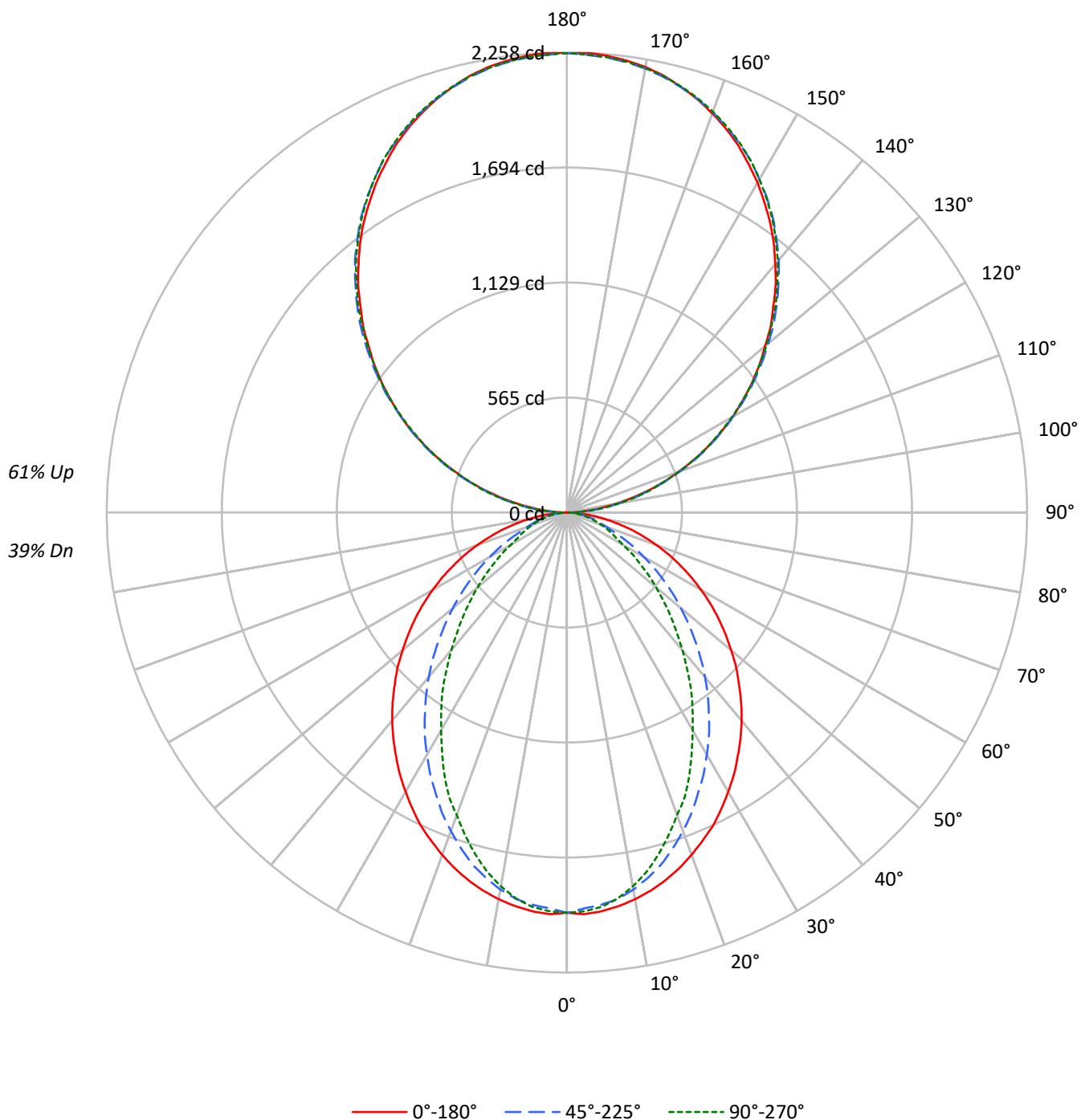
Lumens per Lamp: N/A
Luminaire Lumens: 10349.9 lumens
Efficiency: N/A
Efficacy: 85.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 121
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

TEST NUMBER: P915548

CATALOG NUMBER: DFN2DIP-TR4F0-060D090US927-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P915548

CATALOG NUMBER: DFN2DIP-TR4F0-060D090US927-RLLFLL

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	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46
1	96	92	88	85	87	83	80	78	68	66	64	54	53	51	41	40	40
2	87	80	75	70	79	73	68	64	60	57	54	48	46	44	37	35	34
3	80	71	64	58	73	65	59	54	53	49	46	43	40	37	33	31	29
4	73	63	55	50	66	58	51	46	48	43	39	38	35	32	30	27	26
5	67	56	48	43	61	52	45	40	43	38	34	35	31	28	27	24	22
6	62	51	43	37	56	46	40	35	39	33	30	31	28	25	25	22	20
7	57	46	38	33	52	42	35	30	35	30	26	29	25	22	22	20	18
8	53	41	34	29	49	38	32	27	32	27	23	26	22	20	21	18	16
9	50	38	31	26	45	35	29	24	29	24	21	24	20	18	19	17	15
10	46	35	28	23	42	32	26	22	27	22	19	22	19	16	18	15	13

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: 90°

Vertical Angle: 90°

Luminance: 1758 cd/sqm

TEST NUMBER: P915548

CATALOG NUMBER: DFN2DIP-TR4F0-060D090US927-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.1	1.8
10°-20°	505.4	4.9
20°-30°	709.6	6.9
30°-40°	773.5	7.5
40°-50°	710.9	6.9
50°-60°	558.3	5.4
60°-70°	363.4	3.5
70°-80°	187.1	1.8
80°-90°	54.2	0.5
90°-100°	139.5	1.3
100°-110°	443.3	4.3
110°-120°	758.7	7.3
120°-130°	997.8	9.6
130°-140°	1120.0	10.8
140°-150°	1098.2	10.6
150°-160°	921.3	8.9
160°-170°	611.0	5.9
170°-180°	213.5	2.1
0°-30°	1399.1	13.5
0°-40°	2172.6	21.0
0°-60°	3441.9	33.3
0°-90°	4046.5	39.1
90°-120°	1341.5	13.0
90°-150°	4557.5	44.0
90°-180°	6303.0	60.9
0°-180°	10349.9	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°	2	24	67	62	65	10
95°	99	118	122	122	118	110
105°	409	415	419	422	422	432
115°	761	772	769	767	761	753
125°	1107	1124	1119	1113	1111	990
135°	1432	1453	1458	1455	1450	1107
145°	1739	1752	1763	1765	1758	1086
155°	1988	1994	2000	2009	2003	915
165°	2163	2161	2161	2175	2165	610
175°	2251	2245	2241	2255	2243	214
180°	2255	2255	2255	2255	2255	

TEST NUMBER: P915548

CATALOG NUMBER: DFN2DIP-TR4F0-060D090US927-RLLFLL

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°	2.1	24.5	66.6	62.5	64.6
92.5°	42.1	57.1	59.2	61.2	61.2
95°	99.3	118.3	121.7	121.7	118.3
97.5°	165.2	182.8	190.4	190.4	190.4
100°	241.3	257.0	262.4	262.4	260.4
102.5°	321.5	333.1	340.6	342.6	340.6
105°	409.2	414.6	418.7	422.2	422.2
107.5°	496.2	504.4	504.4	505.7	496.2
110°	580.5	591.4	591.4	591.4	586.0

TEST NUMBER: P915548

CATALOG NUMBER: DFN2DIP-TR4F0-060D090US927-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	671.6	683.2	681.1	675.7	671.6
115°	761.4	772.2	768.8	766.8	761.4
117.5°	850.4	865.4	855.9	850.4	844.9
120°	940.2	955.1	940.2	940.2	934.0
122.5°	1021.7	1040.8	1031.3	1025.8	1021.7
125°	1107.4	1124.3	1119.0	1112.8	1110.8
127.5°	1191.0	1212.0	1204.6	1196.4	1191.0
130°	1269.2	1293.6	1290.2	1286.1	1278.7
132.5°	1356.8	1375.9	1377.2	1367.7	1362.3
135°	1432.3	1453.3	1457.5	1455.4	1450.0
137.5°	1516.6	1533.6	1537.0	1535.6	1527.5
140°	1590.7	1607.7	1617.2	1617.2	1609.7
142.5°	1666.8	1683.8	1689.2	1691.3	1683.8
145°	1738.9	1752.5	1763.3	1765.4	1757.9
147.5°	1803.5	1820.4	1828.6	1832.0	1824.6
150°	1870.1	1881.7	1889.1	1895.2	1889.1
152.5°	1929.2	1940.8	1950.3	1957.8	1950.3
155°	1988.4	1993.8	1999.9	2009.4	2003.3
157.5°	2039.3	2043.4	2046.8	2060.4	2050.9
160°	2084.9	2089.0	2091.0	2102.5	2094.4
162.5°	2127.0	2127.0	2129.1	2142.0	2132.5
165°	2163.1	2161.0	2161.0	2174.6	2165.1
167.5°	2195.7	2189.6	2189.6	2203.1	2193.6
170°	2220.2	2214.7	2212.7	2226.3	2214.7
172.5°	2237.1	2231.7	2229.7	2243.3	2231.7
175°	2250.7	2245.3	2241.2	2254.9	2243.3
177.5°	2258.2	2252.8	2248.7	2260.3	2248.7
180°	2254.9	2254.9	2254.9	2254.9	2254.9

TEST NUMBER: P915548

CATALOG NUMBER: DFN2DIP-TR4F0-060D090US927-RLLFLL

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	7.57	8.32	8.63	9.38	10.80	3.55	4.30	4.60	5.35	6.77
	3H	9.25	9.91	10.31	10.98	12.42	4.73	5.40	5.79	6.46	7.90
	4H	9.85	10.48	10.92	11.55	12.99	5.18	5.81	6.25	6.88	8.32
	6H	10.27	10.85	11.35	11.92	13.38	5.50	6.08	6.58	7.15	8.61
	8H	10.39	10.95	11.48	12.03	13.48	5.59	6.14	6.67	7.22	8.68
	12H	10.45	10.98	11.54	12.05	13.53	5.63	6.15	6.72	7.23	8.71
4H	2H	7.58	8.22	8.66	9.28	10.73	4.13	4.77	5.21	5.83	7.28
	3H	9.40	9.93	10.49	11.02	12.48	5.48	6.00	6.56	7.09	8.55
	4H	10.09	10.58	11.18	11.66	13.14	6.02	6.51	7.11	7.59	9.07
	6H	10.60	11.02	11.70	12.12	13.60	6.44	6.85	7.54	7.96	9.43
	8H	10.78	11.16	11.88	12.26	13.75	6.57	6.95	7.67	8.05	9.54
	12H	10.87	11.22	11.98	12.33	13.82	6.63	6.98	7.74	8.09	9.58
8H	4H	10.06	10.44	11.15	11.54	13.03	6.30	6.68	7.40	7.78	9.27
	6H	10.62	10.94	11.74	12.08	13.56	6.81	7.13	7.93	8.27	9.76
	8H	10.83	11.11	11.96	12.23	13.74	7.01	7.28	8.13	8.40	9.91
	12H	10.97	11.22	12.10	12.33	13.87	7.12	7.37	8.25	8.48	10.03
12H	4H	10.00	10.35	11.12	11.46	12.96	6.30	6.65	7.41	7.76	9.25
	6H	10.59	10.87	11.72	11.99	13.50	6.86	7.14	7.99	8.26	9.77
	8H	10.81	11.06	11.94	12.17	13.72	7.07	7.32	8.20	8.43	9.98

END OF REPORT