

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: P920844

Luminaire Tested: DFN2DIP-TR3F0-070D060US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920844
REPORT IS A COMBINATION OF REPORTS P900321 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-070D060US935-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

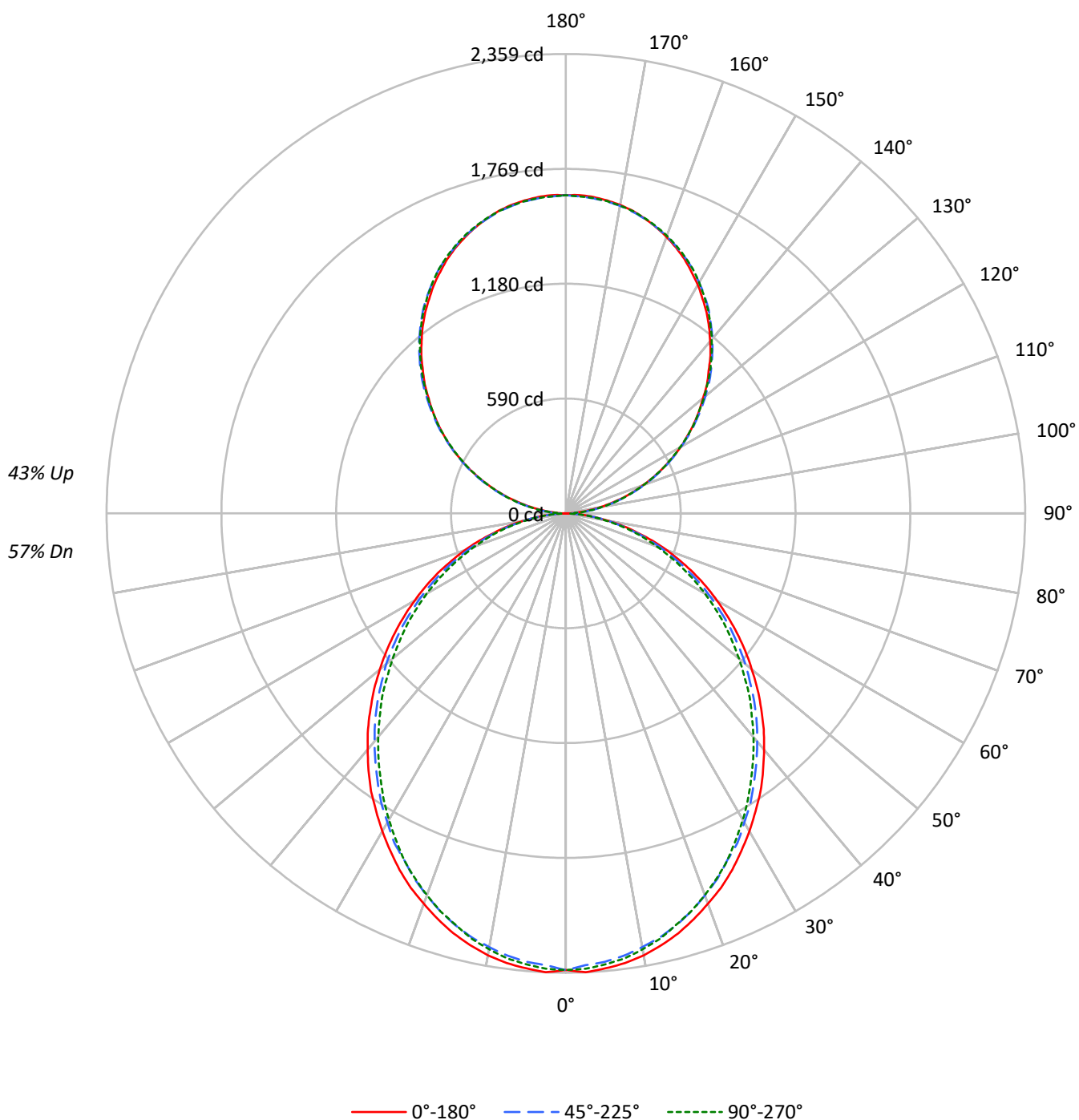
Lumens per Lamp: N/A
Luminaire Lumens: 10538.6 lumens
Efficiency: N/A
Efficacy: 91.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 115.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P920844

CATALOG NUMBER: DFN2DIP-TR3F0-070D060US935-FLLFLL

Luminous Intensity Polar Plot



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CATALOG NUMBER: DFN2DIP-TR3F0-070D060US935-FLLFLL

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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62
1	99	95	91	87	92	88	85	82	76	74	72	65	63	62	55	54	53
2	90	83	77	71	84	77	72	67	67	63	59	57	54	52	48	46	44
3	82	73	65	60	76	68	62	56	59	54	50	51	47	44	43	40	38
4	75	65	57	50	70	60	53	48	53	47	43	45	41	37	38	35	33
5	69	58	49	43	64	54	47	41	47	41	37	41	36	32	35	31	28
6	64	52	43	38	59	48	41	36	42	36	32	37	32	28	31	28	25
7	59	47	39	33	55	44	37	31	38	33	28	33	29	25	29	25	22
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2922	2922	2922
5°	2925	2879	2899
10°	2900	2838	2858
15°	2856	2789	2795
20°	2796	2721	2730
25°	2738	2641	2655
30°	2664	2567	2561
35°	2594	2479	2462
40°	2509	2390	2367
45°	2423	2301	2270
50°	2330	2207	2157
55°	2231	2099	2053
60°	2120	1971	1935
65°	1999	1838	1794
70°	1844	1675	1643
75°	1631	1481	1500
80°	1372	1232	1233
85°	970	812	797

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2423 cd/sqm

TEST NUMBER: P920844

CATALOG NUMBER: DFN2DIP-TR3F0-070D060US935-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.7	2.1
10°-20°	621.0	5.9
20°-30°	912.7	8.7
30°-40°	1060.0	10.1
40°-50°	1058.7	10.0
50°-60°	923.2	8.8
60°-70°	682.4	6.5
70°-80°	386.1	3.7
80°-90°	106.6	1.0
90°-100°	101.1	1.0
100°-110°	321.2	3.0
110°-120°	549.7	5.2
120°-130°	723.0	6.9
130°-140°	811.5	7.7
140°-150°	795.8	7.6
150°-160°	667.5	6.3
160°-170°	442.7	4.2
170°-180°	154.7	1.5
0°-30°	1754.4	16.6
0°-40°	2814.4	26.7
0°-60°	4796.3	45.5
0°-90°	5971.4	56.7
90°-120°	972.0	9.2
90°-150°	3302.3	31.3
90°-180°	4567.0	43.3
0°-180°	10538.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2345	2345	2345	2345	2345	
5°	2345	2336	2311	2329	2325	223
15°	2232	2219	2190	2199	2188	629
25°	2020	2002	1964	1969	1964	930
35°	1743	1721	1684	1671	1660	1089
45°	1418	1403	1369	1344	1335	1095
55°	1074	1060	1033	1006	994	960
65°	724	710	688	668	656	716
75°	379	374	363	350	354	404
85°	92	90	88	81	79	103
90°	2	18	48	45	47	10
95°	72	86	88	88	86	80
105°	296	300	303	306	306	313
115°	552	560	557	556	552	546
125°	802	815	811	806	805	717
135°	1038	1053	1056	1055	1051	802
145°	1260	1270	1278	1279	1274	787
155°	1441	1445	1449	1456	1452	663
165°	1567	1566	1566	1576	1569	442
175°	1631	1627	1624	1634	1625	155
180°	1634	1634	1634	1634	1634	

TEST NUMBER: P920844

CATALOG NUMBER: DFN2DIP-TR3F0-070D060US935-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2345.1	2345.1	2345.1	2345.1	2345.1
2.5°	2358.8	2347.5	2322.6	2345.1	2340.8
5°	2345.1	2336.3	2311.4	2329.3	2325.0
7.5°	2329.3	2315.9	2291.0	2309.3	2304.7
10°	2304.7	2288.9	2261.8	2279.8	2273.1
12.5°	2270.7	2257.4	2230.3	2241.5	2237.0
15°	2232.5	2219.0	2189.6	2198.7	2187.5
17.5°	2185.0	2171.7	2142.2	2153.5	2142.2
20°	2133.1	2119.8	2088.2	2094.9	2086.0
22.5°	2081.5	2061.1	2031.7	2031.7	2027.1
25°	2020.5	2002.5	1964.3	1968.6	1964.3
27.5°	1952.7	1937.0	1907.8	1901.1	1889.8
30°	1885.3	1867.1	1833.4	1826.7	1817.6
32.5°	1813.0	1799.7	1763.5	1749.9	1740.8
35°	1743.2	1720.7	1684.5	1670.9	1659.7
37.5°	1664.2	1643.9	1607.7	1592.0	1580.7
40°	1583.1	1564.9	1528.8	1508.7	1499.6
42.5°	1504.2	1486.0	1450.1	1427.4	1413.9
45°	1418.5	1402.7	1368.7	1344.1	1335.0
47.5°	1335.0	1319.2	1283.1	1258.2	1244.8
50°	1247.0	1235.7	1204.1	1172.6	1161.3
52.5°	1161.3	1145.6	1116.4	1091.5	1075.6
55°	1073.5	1059.9	1032.9	1005.8	994.5
57.5°	985.5	974.2	944.8	917.7	908.7
60°	897.4	888.5	857.0	832.2	825.4
62.5°	811.7	796.0	773.5	751.0	741.9
65°	724.0	710.3	687.9	667.5	656.3
67.5°	633.8	622.3	602.2	586.4	577.3
70°	550.3	541.2	520.8	505.1	496.2
72.5°	464.6	455.6	444.3	428.5	421.8
75°	378.8	374.4	362.9	349.6	354.1
77.5°	302.2	293.1	288.5	281.8	275.2
80°	225.6	223.3	218.7	212.0	207.4
82.5°	153.3	153.3	151.2	142.2	142.2
85°	92.4	90.2	88.1	81.1	79.0
87.5°	40.6	36.2	31.6	24.9	22.5
90°	1.5	17.7	48.3	45.3	46.8
92.5°	30.6	41.4	42.9	44.3	44.3
95°	71.9	85.7	88.2	88.2	85.7
97.5°	119.7	132.5	137.9	137.9	137.9
100°	174.9	186.1	190.1	190.1	188.6
102.5°	233.0	241.3	246.8	248.2	246.8
105°	296.5	300.5	303.4	305.9	305.9
107.5°	359.6	365.5	365.5	366.4	359.6
110°	420.7	428.5	428.5	428.5	424.6

TEST NUMBER: P920844

CATALOG NUMBER: DFN2DIP-TR3F0-070D060US935-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	486.6	495.0	493.5	489.6	486.6
115°	551.6	559.6	557.1	555.6	551.6
117.5°	616.2	627.1	620.1	616.2	612.3
120°	681.2	692.1	681.2	681.2	676.7
122.5°	740.3	754.1	747.2	743.3	740.3
125°	802.4	814.7	810.7	806.3	804.9
127.5°	863.0	878.2	872.8	866.9	863.0
130°	919.6	937.4	934.9	931.9	926.5
132.5°	983.2	996.9	997.9	991.0	987.0
135°	1037.8	1053.1	1056.0	1054.6	1050.6
137.5°	1098.9	1111.2	1113.7	1112.7	1106.8
140°	1152.6	1164.9	1171.8	1171.8	1166.4
142.5°	1207.7	1220.0	1224.0	1225.5	1220.0
145°	1260.0	1269.8	1277.7	1279.2	1273.8
147.5°	1306.7	1319.0	1325.0	1327.4	1322.0
150°	1355.0	1363.4	1368.8	1373.2	1368.8
152.5°	1397.8	1406.3	1413.2	1418.6	1413.2
155°	1440.7	1444.7	1449.1	1456.0	1451.6
157.5°	1477.6	1480.7	1483.1	1493.0	1486.1
160°	1510.7	1513.6	1515.1	1523.4	1517.6
162.5°	1541.2	1541.2	1542.6	1552.0	1545.1
165°	1567.3	1565.8	1565.8	1575.7	1568.8
167.5°	1591.0	1586.6	1586.6	1596.4	1589.5
170°	1608.7	1604.7	1603.3	1613.1	1604.7
172.5°	1621.0	1617.0	1615.6	1625.4	1617.0
175°	1630.8	1626.9	1623.9	1633.8	1625.4
177.5°	1636.2	1632.4	1629.4	1637.7	1629.4
180°	1633.8	1633.8	1633.8	1633.8	1633.8

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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	11.54	12.46	12.44	13.38	14.55	11.11	12.03	12.01	12.95	14.12
	3H	13.19	14.02	14.10	14.95	16.15	12.73	13.56	13.64	14.48	15.68
	4H	13.78	14.56	14.70	15.50	16.70	13.31	14.10	14.24	15.03	16.23
	6H	14.17	14.90	15.11	15.84	17.06	13.70	14.43	14.64	15.37	16.59
	8H	14.28	14.97	15.22	15.92	17.14	13.81	14.50	14.75	15.45	16.67
	12H	14.32	14.98	15.27	15.93	17.17	13.85	14.51	14.80	15.46	16.70
4H	2H	12.00	12.79	12.93	13.72	14.93	11.66	12.45	12.59	13.38	14.59
	3H	13.87	14.52	14.81	15.48	16.70	13.48	14.13	14.42	15.09	16.31
	4H	14.57	15.17	15.53	16.13	17.38	14.17	14.77	15.12	15.73	16.98
	6H	15.08	15.60	16.05	16.58	17.83	14.68	15.20	15.64	16.18	17.42
	8H	15.23	15.71	16.20	16.69	17.95	14.82	15.31	15.79	16.28	17.54
	12H	15.30	15.74	16.29	16.73	17.99	14.89	15.32	15.87	16.31	17.58
8H	4H	14.77	15.25	15.74	16.23	17.49	14.42	14.90	15.38	15.87	17.13
	6H	15.40	15.79	16.39	16.81	18.07	15.04	15.44	16.03	16.45	17.71
	8H	15.61	15.96	16.61	16.97	18.24	15.25	15.60	16.25	16.60	17.88
	12H	15.74	16.05	16.74	17.05	18.37	15.36	15.67	16.36	16.67	17.99
12H	4H	14.76	15.20	15.75	16.19	17.45	14.41	14.85	15.40	15.84	17.10
	6H	15.42	15.78	16.42	16.78	18.06	15.08	15.43	16.08	16.43	17.71
	8H	15.66	15.97	16.67	16.97	18.29	15.31	15.62	16.31	16.62	17.94