

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: P926523

Luminaire Tested: DFN2DIP-TR4F0-080D070US950-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926523
REPORT IS A COMBINATION OF REPORTS P901951 AND P898849
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-080D070US950-FLLONL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

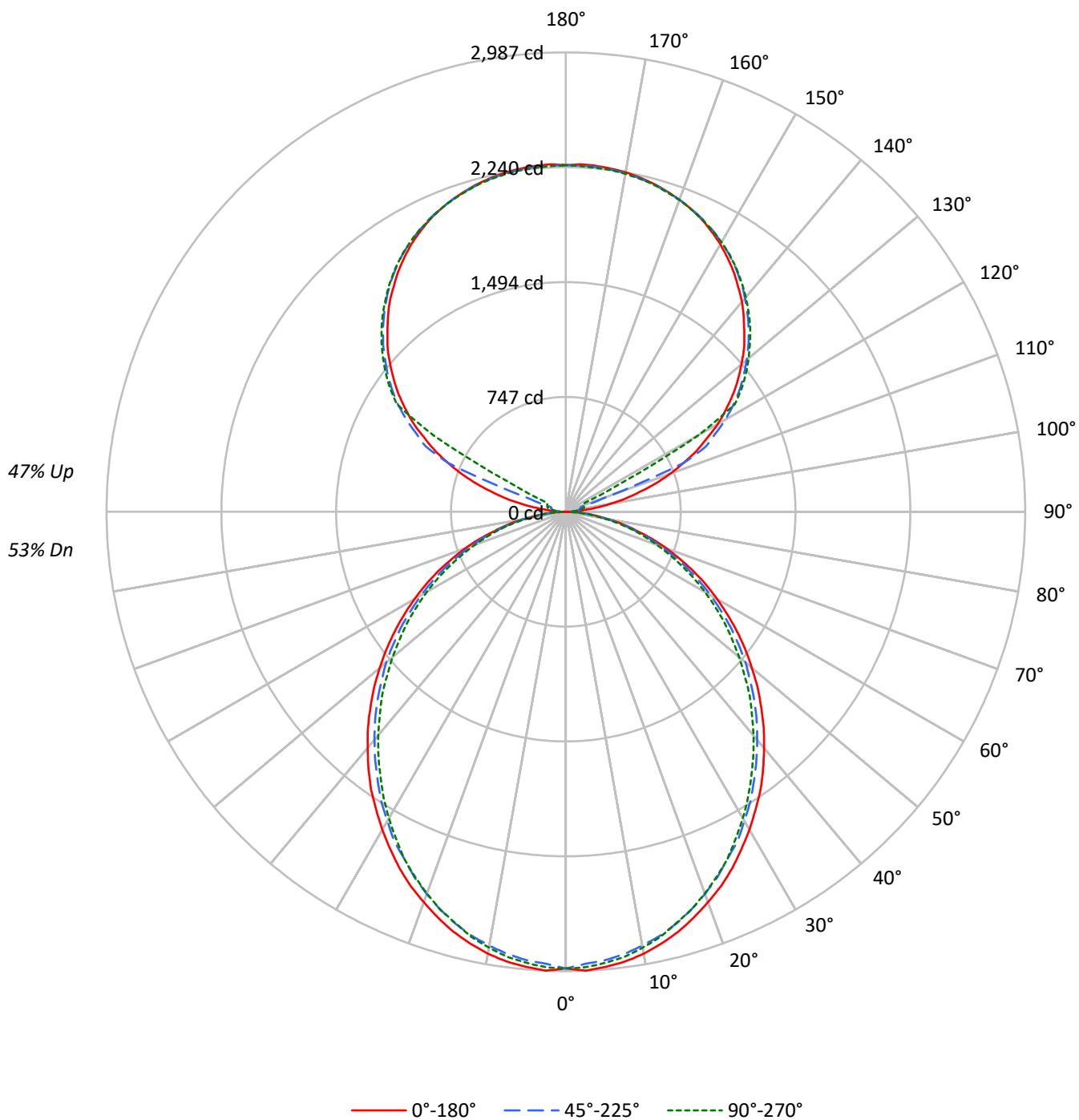
Lumens per Lamp: N/A
Luminaire Lumens: 14166.9 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 127.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
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: P926523

CATALOG NUMBER: DFN2DIP-TR4F0-080D070US950-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P926523

CATALOG NUMBER: DFN2DIP-TR4F0-080D070US950-FLLONL

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	108	108	108	108	100	100	100	100	85	85	85		72	72	72		59
1	99	94	90	87	91	87	84	81	75	72	70		63	61	60		52
2	90	82	76	71	83	76	71	66	65	61	58		55	52	50		46
3	82	72	65	59	76	67	61	56	58	53	49		49	45	42		41
4	75	64	56	50	69	60	53	47	51	46	42		44	40	36		37
5	69	57	49	43	63	53	46	41	46	40	36		39	35	31		33
6	63	51	43	37	59	48	41	35	41	36	31		35	31	28		30
7	59	46	38	33	54	43	36	31	38	32	28		32	28	24		27
8	54	42	34	29	50	39	32	27	34	29	25		30	25	22		25
9	51	38	31	26	47	36	29	25	31	26	22		27	23	20		23
10	47	35	28	23	44	33	26	22	29	24	20		25	21	18		21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2359	2359	2359
5°	2363	2326	2342
10°	2344	2295	2310
15°	2309	2257	2261
20°	2263	2205	2210
25°	2217	2142	2151
30°	2159	2083	2076
35°	2104	2014	1997
40°	2036	1945	1922
45°	1968	1875	1846
50°	1895	1802	1756
55°	1817	1717	1675
60°	1730	1616	1581
65°	1635	1512	1470
70°	1513	1385	1351
75°	1345	1233	1241
80°	1143	1040	1031
85°	827	706	683

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1968 cd/sqm

TEST NUMBER: P926523

CATALOG NUMBER: DFN2DIP-TR4F0-080D070US950-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	279.5	2.0
10°-20°	786.4	5.6
20°-30°	1155.7	8.2
30°-40°	1342.3	9.5
40°-50°	1340.6	9.5
50°-60°	1169.0	8.3
60°-70°	864.1	6.1
70°-80°	488.9	3.5
80°-90°	133.0	0.9
90°-100°	74.3	0.5
100°-110°	277.0	2.0
110°-120°	734.8	5.2
120°-130°	1218.6	8.6
130°-140°	1294.5	9.1
140°-150°	1203.1	8.5
150°-160°	967.2	6.8
160°-170°	623.3	4.4
170°-180°	214.5	1.5
0°-30°	2221.6	15.7
0°-40°	3563.9	25.2
0°-60°	6073.6	42.9
0°-90°	7559.6	53.4
90°-120°	1086.1	7.7
90°-150°	4802.2	33.9
90°-180°	6607.0	46.6
0°-180°	14166.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2970	2970	2970	2970	2970	
5°	2970	2958	2927	2950	2944	282
15°	2827	2810	2773	2784	2770	796
25°	2558	2536	2487	2493	2487	1177
35°	2207	2179	2133	2116	2102	1378
45°	1796	1776	1733	1702	1691	1386
55°	1359	1342	1308	1274	1259	1215
65°	917	900	871	845	831	906
75°	480	474	460	443	448	512
85°	117	114	112	103	100	130
90°	2	20	32	41	44	13
95°	106	52	64	72	70	125
105°	496	545	100	117	124	530
115°	938	965	1006	251	134	923
125°	1326	1347	1378	1390	1394	1182
135°	1641	1667	1681	1698	1694	1267
145°	1903	1902	1929	1941	1932	1190
155°	2096	2081	2100	2110	2097	966
165°	2208	2198	2203	2215	2203	624
175°	2259	2247	2250	2262	2246	215
180°	2254	2254	2254	2254	2254	

TEST NUMBER: P926523

CATALOG NUMBER: DFN2DIP-TR4F0-080D070US950-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2969.6	2969.6	2969.6	2969.6	2969.6
2.5°	2986.9	2972.7	2941.2	2969.6	2964.2
5°	2969.6	2958.4	2927.0	2949.7	2944.2
7.5°	2949.7	2932.7	2901.2	2924.2	2918.5
10°	2918.5	2898.4	2864.2	2886.9	2878.5
12.5°	2875.5	2858.5	2824.2	2838.4	2832.7
15°	2827.0	2810.0	2772.7	2784.2	2770.0
17.5°	2767.0	2750.0	2712.7	2727.0	2712.7
20°	2701.3	2684.3	2644.3	2652.8	2641.5
22.5°	2635.8	2610.0	2572.7	2572.7	2567.0
25°	2558.5	2535.8	2487.4	2492.8	2487.4
27.5°	2472.8	2452.8	2415.8	2407.3	2393.1
30°	2387.4	2364.3	2321.7	2313.2	2301.6
32.5°	2295.9	2278.9	2233.1	2215.9	2204.4
35°	2207.4	2178.9	2133.1	2115.9	2101.7
37.5°	2107.4	2081.6	2035.9	2015.9	2001.7
40°	2004.7	1981.6	1936.0	1910.5	1898.9
42.5°	1904.8	1881.7	1836.3	1807.4	1790.6
45°	1796.3	1776.3	1733.2	1702.0	1690.6
47.5°	1690.6	1670.5	1624.8	1593.3	1576.3
50°	1579.1	1564.8	1524.8	1484.8	1470.6
52.5°	1470.6	1450.6	1413.6	1382.2	1362.1
55°	1359.4	1342.1	1307.9	1273.7	1259.4
57.5°	1247.9	1233.7	1196.4	1162.2	1150.6
60°	1136.4	1125.2	1085.2	1053.7	1045.2
62.5°	1027.9	1008.0	979.5	951.0	939.5
65°	916.8	899.5	871.0	845.2	831.0
67.5°	802.5	788.0	762.5	742.6	731.1
70°	696.8	685.3	659.6	639.6	628.3
72.5°	588.3	576.9	562.6	542.6	534.1
75°	479.6	474.1	459.6	442.7	448.4
77.5°	382.6	371.1	365.4	356.9	348.4
80°	285.7	282.7	276.9	268.5	262.6
82.5°	194.2	194.2	191.5	179.9	179.9
85°	117.0	114.2	111.5	102.7	100.0
87.5°	51.5	45.8	40.0	31.5	28.5
90°	1.5	19.6	32.5	40.8	44.0
92.5°	40.8	34.2	39.1	42.5	44.0
95°	105.9	52.1	63.5	71.8	70.1
97.5°	190.7	57.1	83.1	88.1	89.7
100°	288.8	65.3	92.9	105.9	109.2
102.5°	396.2	393.1	96.3	114.1	119.1
105°	495.8	544.7	99.5	117.3	123.9
107.5°	611.5	652.2	102.8	120.7	127.3
110°	722.6	756.6	285.4	122.4	128.8

TEST NUMBER: P926523

CATALOG NUMBER: DFN2DIP-TR4F0-080D070US950-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	826.9	856.1	828.5	125.5	130.5
115°	937.7	965.4	1006.2	251.2	133.8
117.5°	1033.9	1066.5	1094.3	861.0	433.8
120°	1141.6	1166.0	1195.5	1215.0	994.8
122.5°	1232.8	1258.9	1291.7	1301.4	1303.1
125°	1325.8	1347.0	1378.1	1389.5	1394.3
127.5°	1410.6	1433.4	1458.0	1474.3	1475.8
130°	1490.5	1516.7	1534.5	1552.5	1551.0
132.5°	1572.1	1593.4	1611.2	1625.9	1624.4
135°	1640.6	1666.7	1681.3	1697.7	1694.5
137.5°	1712.2	1731.9	1748.3	1764.6	1759.7
140°	1782.4	1795.5	1813.4	1828.1	1819.9
142.5°	1841.2	1852.7	1873.8	1886.7	1878.6
145°	1903.2	1901.5	1929.2	1940.6	1932.5
147.5°	1956.8	1952.1	1979.7	1987.8	1981.5
150°	2009.1	1997.8	2023.9	2033.5	2025.4
152.5°	2053.1	2040.1	2064.6	2074.4	2063.0
155°	2095.6	2081.0	2100.5	2110.2	2097.3
157.5°	2129.8	2116.8	2131.5	2143.0	2129.8
160°	2159.3	2149.4	2159.3	2168.9	2157.5
162.5°	2185.2	2175.5	2183.6	2195.1	2180.4
165°	2208.0	2198.4	2203.2	2214.6	2203.2
167.5°	2226.1	2216.1	2221.2	2232.6	2218.0
170°	2240.8	2230.9	2234.2	2245.6	2230.9
172.5°	2250.5	2240.8	2244.1	2255.4	2240.8
175°	2258.6	2247.1	2250.5	2261.8	2245.6
177.5°	2261.8	2250.5	2252.2	2263.7	2248.9
180°	2253.7	2253.7	2253.7	2253.7	2253.7

TEST NUMBER: P926523

CATALOG NUMBER: DFN2DIP-TR4F0-080D070US950-FLLONL

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	10.55	11.45	11.48	12.39	13.61	10.12	11.02	11.05	11.96	13.18
	3H	12.22	13.02	13.16	13.97	15.22	11.74	12.54	12.68	13.50	14.75
	4H	12.81	13.56	13.76	14.52	15.78	12.33	13.09	13.29	14.05	15.30
	6H	13.21	13.90	14.17	14.87	16.14	12.73	13.43	13.70	14.39	15.66
	8H	13.31	13.98	14.28	14.96	16.22	12.84	13.50	13.81	14.48	15.75
	12H	13.36	13.99	14.34	14.97	16.26	12.88	13.51	13.86	14.49	15.78
4H	2H	11.02	11.78	11.98	12.74	13.99	10.68	11.43	11.63	12.39	13.65
	3H	12.89	13.52	13.86	14.51	15.78	12.50	13.13	13.47	14.12	15.39
	4H	13.60	14.18	14.58	15.16	16.46	13.20	13.78	14.18	14.76	16.05
	6H	14.12	14.62	15.11	15.63	16.92	13.71	14.21	14.70	15.22	16.51
	8H	14.27	14.74	15.26	15.74	17.04	13.86	14.32	14.85	15.32	16.63
	12H	14.35	14.77	15.36	15.78	17.09	13.92	14.34	14.94	15.36	16.67
8H	4H	13.80	14.27	14.80	15.27	16.57	13.44	13.91	14.44	14.91	16.21
	6H	14.44	14.82	15.45	15.86	17.17	14.07	14.46	15.09	15.50	16.80
	8H	14.66	15.00	15.68	16.02	17.35	14.29	14.63	15.31	15.66	16.98
	12H	14.79	15.09	15.82	16.11	17.48	14.41	14.70	15.43	15.73	17.09
12H	4H	13.79	14.21	14.80	15.23	16.54	13.44	13.86	14.45	14.87	16.19
	6H	14.47	14.81	15.49	15.83	17.16	14.11	14.45	15.14	15.48	16.81
	8H	14.71	15.01	15.74	16.03	17.40	14.35	14.65	15.38	15.67	17.04

END OF REPORT