

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: P926521

Luminaire Tested: DFN2DIP-TR4F0-080D060US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926521
REPORT IS A COMBINATION OF REPORTS P901934 AND P898849
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-080D060US950-RLLONL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

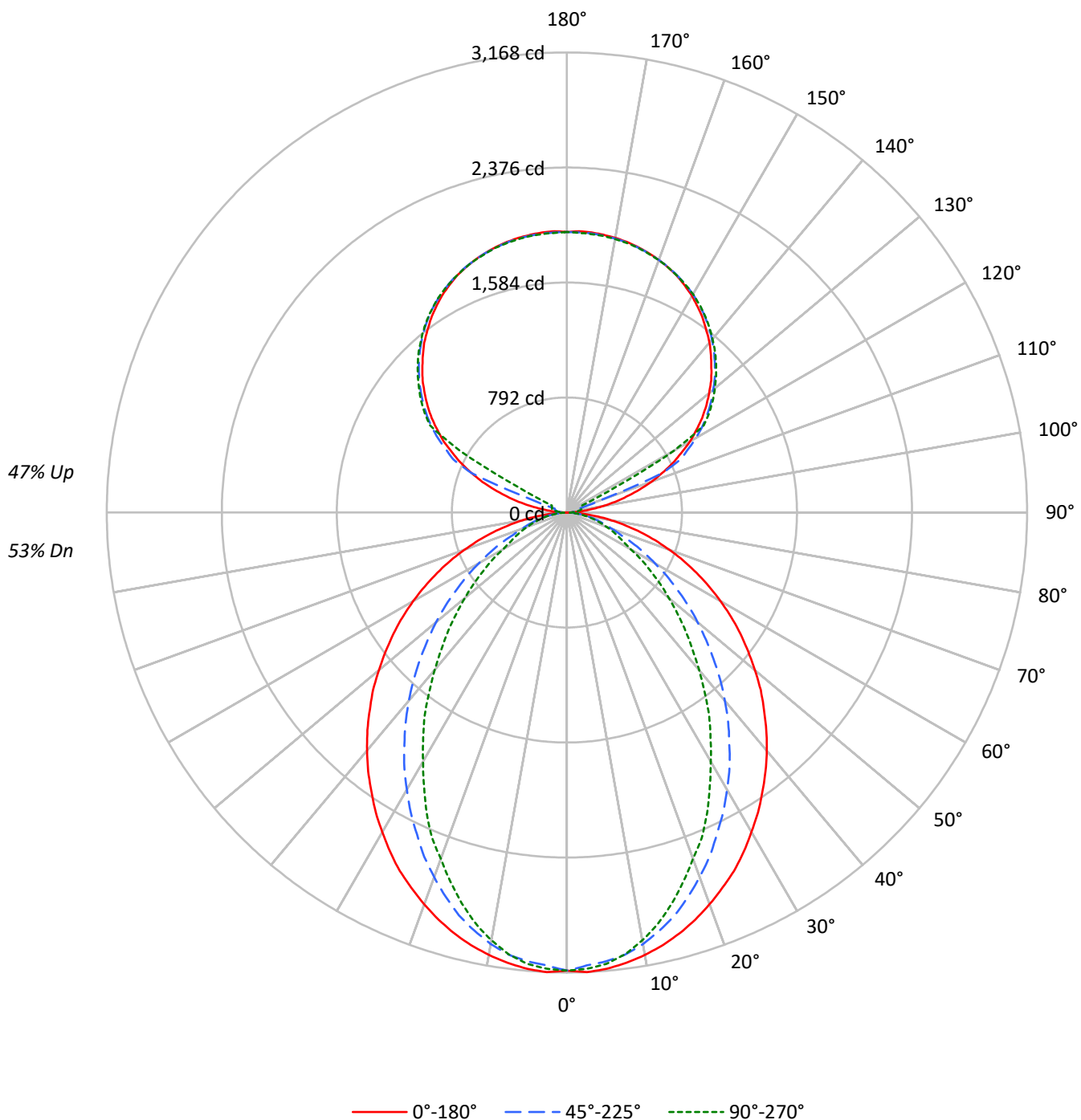
Lumens per Lamp: N/A
Luminaire Lumens: 12154.0 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 119.8
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: P926521

CATALOG NUMBER: DFN2DIP-TR4F0-080D060US950-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P926521

CATALOG NUMBER: DFN2DIP-TR4F0-080D060US950-RLLONL

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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59
1	99	95	91	88	92	88	85	82	76	73	71	64	62	61	53	52	51
2	91	83	78	73	84	78	73	68	67	63	60	57	54	52	47	45	44
3	83	74	67	61	77	69	63	58	59	55	51	51	47	44	42	40	38
4	76	66	58	52	70	61	55	49	53	48	44	45	42	38	38	35	33
5	70	59	51	45	65	55	48	43	48	42	38	41	37	34	35	32	29
6	65	53	45	39	60	50	43	37	43	38	34	37	33	30	32	28	26
7	60	48	40	35	56	45	38	33	39	34	30	34	30	26	29	26	23
8	56	44	36	31	52	41	34	29	36	31	27	31	27	24	27	24	21
9	52	40	33	28	48	38	31	26	33	28	24	29	25	22	25	22	19
10	49	37	30	25	45	35	28	24	31	25	22	27	23	20	23	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2506	2506	2506
5°	2510	2466	2482
10°	2485	2418	2401
15°	2451	2338	2276
20°	2406	2228	2123
25°	2359	2104	1975
30°	2297	1977	1787
35°	2236	1841	1622
40°	2174	1700	1433
45°	2102	1544	1262
50°	2027	1386	1095
55°	1950	1218	934
60°	1860	1042	769
65°	1756	862	692
70°	1631	695	626
75°	1473	613	569
80°	1244	514	493
85°	868	343	370

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2102 cd/sqm

TEST NUMBER: P926521

CATALOG NUMBER: DFN2DIP-TR4F0-080D060US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.6	2.4
10°-20°	811.5	6.7
20°-30°	1139.4	9.4
30°-40°	1242.0	10.2
40°-50°	1141.5	9.4
50°-60°	896.5	7.4
60°-70°	583.5	4.8
70°-80°	300.4	2.5
80°-90°	80.1	0.7
90°-100°	63.7	0.5
100°-110°	237.5	2.0
110°-120°	629.8	5.2
120°-130°	1044.5	8.6
130°-140°	1109.5	9.1
140°-150°	1031.2	8.5
150°-160°	829.1	6.8
160°-170°	534.2	4.4
170°-180°	183.9	1.5
0°-30°	2246.6	18.5
0°-40°	3488.6	28.7
0°-60°	5526.6	45.5
0°-90°	6490.6	53.4
90°-120°	930.9	7.7
90°-150°	4116.2	33.9
90°-180°	5663.0	46.6
0°-180°	12154.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3154	3154	3154	3154	3154	
5°	3154	3140	3103	3128	3120	299
15°	3000	2969	2872	2818	2789	845
25°	2723	2632	2444	2327	2284	1252
35°	2347	2201	1950	1770	1707	1469
45°	1918	1727	1427	1224	1156	1481
55°	1459	1236	928	756	702	1303
65°	985	754	497	400	391	976
75°	525	325	228	208	206	555
85°	123	63	54	54	54	141
90°	1	17	28	35	38	11
95°	91	45	54	62	60	108
105°	425	467	85	101	106	454
115°	804	828	862	215	115	791
125°	1136	1155	1181	1191	1195	1014
135°	1406	1429	1441	1455	1452	1086
145°	1631	1630	1654	1663	1656	1020
155°	1796	1784	1800	1809	1798	828
165°	1893	1884	1888	1898	1888	535
175°	1936	1926	1929	1939	1925	184
180°	1932	1932	1932	1932	1932	

TEST NUMBER: P926521

CATALOG NUMBER: DFN2DIP-TR4F0-080D060US950-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3154.3	3154.3	3154.3	3154.3	3154.3
2.5°	3168.5	3154.3	3122.8	3151.5	3145.8
5°	3154.3	3140.1	3102.8	3128.5	3120.1
7.5°	3128.5	3111.6	3071.6	3082.9	3068.5
10°	3094.3	3074.4	3017.4	3008.6	2991.6
12.5°	3051.7	3025.9	2948.6	2931.6	2900.2
15°	3000.1	2968.7	2871.7	2817.5	2789.0
17.5°	2940.1	2894.4	2774.5	2711.8	2666.0
20°	2871.7	2814.5	2671.9	2600.7	2537.6
22.5°	2797.5	2731.8	2566.2	2469.2	2426.5
25°	2723.3	2631.9	2443.5	2326.6	2283.6
27.5°	2634.9	2537.6	2329.3	2195.2	2129.4
30°	2540.7	2431.9	2203.6	2058.3	1981.0
32.5°	2449.2	2317.8	2084.0	1912.6	1841.1
35°	2346.6	2200.9	1949.8	1770.0	1706.9
37.5°	2246.6	2089.5	1824.1	1627.0	1555.8
40°	2141.0	1969.8	1692.7	1490.1	1415.8
42.5°	2032.5	1849.9	1561.5	1350.2	1278.9
45°	1918.3	1726.9	1427.4	1224.5	1156.1
47.5°	1809.9	1607.3	1299.0	1096.1	1033.4
50°	1689.9	1487.4	1173.3	976.1	916.4
52.5°	1572.8	1358.6	1053.3	865.0	810.8
55°	1458.6	1236.0	927.7	756.5	702.3
57.5°	1341.7	1113.3	816.5	656.6	610.8
60°	1221.7	993.4	699.3	553.9	508.2
62.5°	1104.8	876.4	599.4	462.5	439.8
65°	984.9	753.5	496.7	399.8	390.9
67.5°	870.7	639.4	399.8	351.0	342.6
70°	750.8	528.2	331.0	302.5	291.1
72.5°	636.6	425.2	276.9	254.1	248.3
75°	525.2	325.3	228.4	208.4	205.7
77.5°	414.0	231.1	179.9	168.4	162.7
80°	311.0	165.7	136.9	125.6	125.6
82.5°	216.8	111.4	94.2	88.4	88.4
85°	122.7	62.7	54.2	54.2	54.2
87.5°	45.7	22.7	22.7	20.0	20.0
90°	1.3	16.8	27.9	35.0	37.7
92.5°	35.0	29.4	33.5	36.3	37.7
95°	90.8	44.6	54.5	61.6	60.1
97.5°	163.5	48.9	71.2	75.6	76.9
100°	247.5	55.9	79.7	90.8	93.6
102.5°	339.6	337.0	82.5	97.8	102.1
105°	424.9	466.9	85.3	100.6	106.3
107.5°	524.2	559.0	88.1	103.4	109.0
110°	619.3	648.5	244.7	104.9	110.4

TEST NUMBER: P926521

CATALOG NUMBER: DFN2DIP-TR4F0-080D060US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	708.7	733.8	710.1	107.5	111.9
115°	803.7	827.5	862.5	215.3	114.7
117.5°	886.2	914.1	938.0	738.0	371.8
120°	978.5	999.4	1024.7	1041.4	852.7
122.5°	1056.7	1079.1	1107.1	1115.4	1116.9
125°	1136.4	1154.6	1181.1	1191.0	1195.1
127.5°	1209.1	1228.7	1249.7	1263.7	1265.0
130°	1277.6	1300.0	1315.3	1330.7	1329.4
132.5°	1347.5	1365.7	1381.0	1393.6	1392.3
135°	1406.3	1428.7	1441.1	1455.2	1452.4
137.5°	1467.6	1484.4	1498.5	1512.5	1508.4
140°	1527.7	1539.1	1554.4	1566.9	1560.0
142.5°	1578.2	1588.0	1606.2	1617.2	1610.3
145°	1631.3	1629.8	1653.6	1663.4	1656.4
147.5°	1677.3	1673.1	1696.9	1703.8	1698.4
150°	1722.2	1712.3	1734.8	1743.1	1736.1
152.5°	1759.8	1748.7	1769.6	1778.1	1768.2
155°	1796.2	1783.7	1800.5	1808.8	1797.6
157.5°	1825.6	1814.4	1827.0	1836.8	1825.6
160°	1850.8	1842.3	1850.8	1859.1	1849.3
162.5°	1873.0	1864.7	1871.7	1881.5	1868.9
165°	1892.6	1884.3	1888.4	1898.3	1888.4
167.5°	1908.0	1899.6	1903.9	1913.7	1901.0
170°	1920.7	1912.2	1915.1	1924.8	1912.2
172.5°	1929.0	1920.7	1923.5	1933.3	1920.7
175°	1936.0	1926.1	1929.0	1938.7	1924.8
177.5°	1938.7	1929.0	1930.4	1940.2	1927.7
180°	1931.8	1931.8	1931.8	1931.8	1931.8

TEST NUMBER: P926521

CATALOG NUMBER: DFN2DIP-TR4F0-080D060US950-RLONL

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	10.65	11.51	11.58	12.45	13.68	6.62	7.48	7.55	8.43	9.65
	3H	12.33	13.09	13.27	14.05	15.30	7.81	8.58	8.76	9.54	10.78
	4H	12.94	13.66	13.90	14.62	15.88	8.26	8.99	9.22	9.95	11.21
	6H	13.36	14.03	14.33	14.99	16.26	8.59	9.26	9.56	10.22	11.49
	8H	13.49	14.12	14.46	15.10	16.37	8.68	9.31	9.66	10.30	11.56
	12H	13.55	14.15	14.53	15.13	16.42	8.72	9.33	9.71	10.30	11.60
4H	2H	10.67	11.39	11.63	12.35	13.61	7.22	7.94	8.18	8.90	10.16
	3H	12.50	13.10	13.48	14.09	15.36	8.57	9.18	9.55	10.17	11.44
	4H	13.19	13.74	14.18	14.73	16.02	9.12	9.67	10.11	10.66	11.95
	6H	13.71	14.18	14.71	15.19	16.48	9.54	10.02	10.54	11.02	12.32
	8H	13.89	14.33	14.88	15.33	16.64	9.67	10.12	10.67	11.12	12.42
	12H	13.98	14.38	15.00	15.40	16.71	9.74	10.14	10.76	11.16	12.47
8H	4H	13.16	13.60	14.16	14.61	15.91	9.40	9.85	10.40	10.85	12.15
	6H	13.73	14.09	14.75	15.14	16.44	9.92	10.29	10.95	11.33	12.64
	8H	13.95	14.27	14.98	15.30	16.62	10.12	10.44	11.15	11.47	12.79
	12H	14.09	14.37	15.12	15.39	16.76	10.24	10.52	11.27	11.54	12.91
12H	4H	13.12	13.51	14.13	14.53	15.84	9.41	9.81	10.43	10.83	12.14
	6H	13.71	14.03	14.74	15.06	16.38	9.97	10.30	11.00	11.33	12.65
	8H	13.93	14.21	14.96	15.23	16.60	10.19	10.47	11.22	11.49	12.86

END OF REPORT