

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: P915426

Luminaire Tested: DFN2DIP-TR3F0-080D090US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915426
REPORT IS A COMBINATION OF REPORTS P900365 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-080D090US927-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

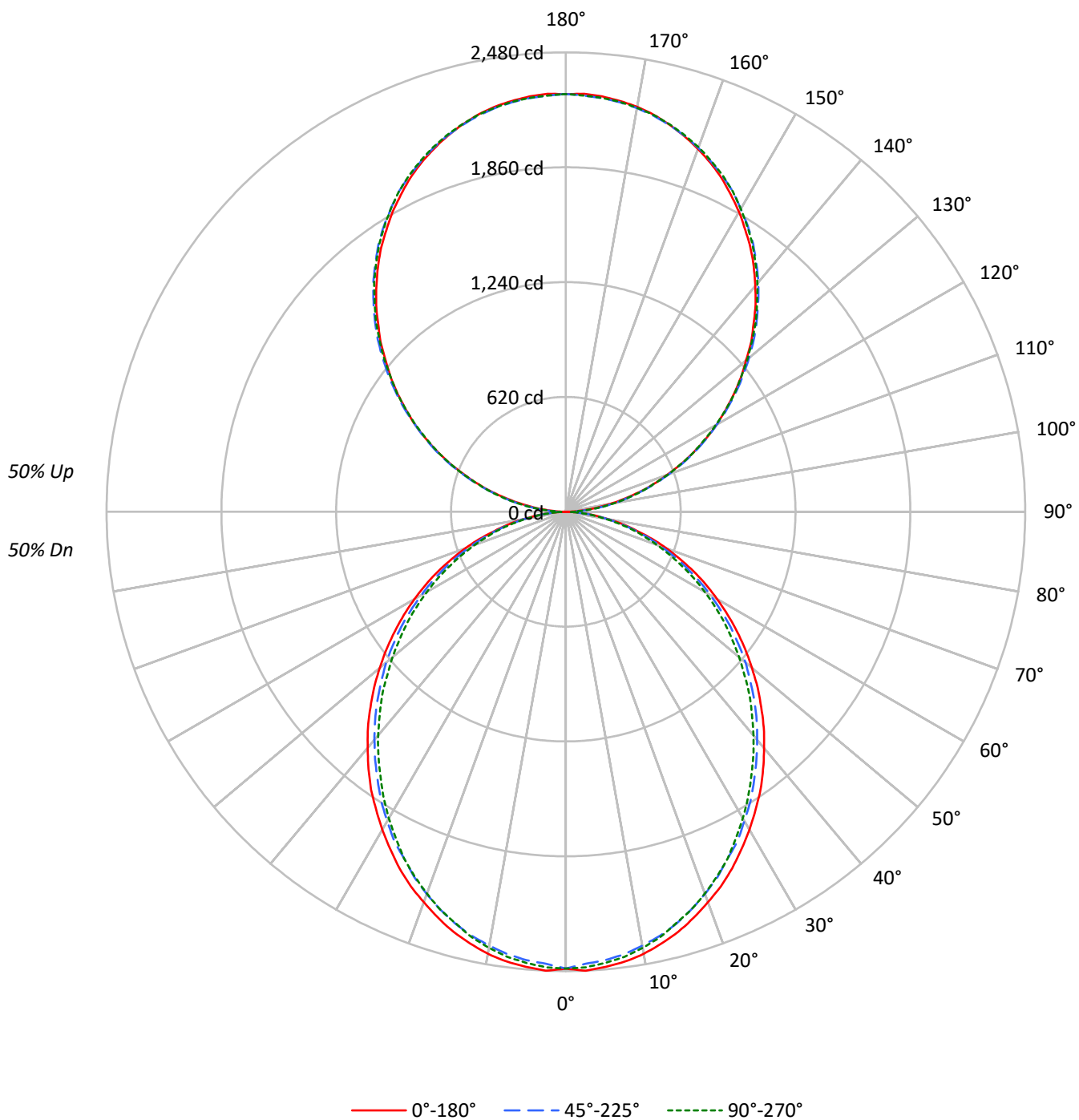
Lumens per Lamp: N/A
Luminaire Lumens: 12583.8 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 151.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P915426

CATALOG NUMBER: DFN2DIP-TR3F0-080D090US927-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P915426

CATALOG NUMBER: DFN2DIP-TR3F0-080D090US927-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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56
1	98	93	90	86	90	86	83	80	73	71	68	61	59	58	50	48	47
2	89	82	75	70	82	75	70	66	64	60	57	53	51	48	44	42	40
3	81	72	64	59	75	66	60	55	56	52	48	47	44	41	39	36	34
4	74	63	56	50	68	59	52	46	50	45	41	42	38	35	35	32	29
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	25
6	63	51	43	37	58	47	40	35	40	35	31	34	30	26	28	25	22
7	58	46	38	32	53	43	36	30	37	31	27	31	27	23	26	22	20
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	19	16
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3073	3073	3073
5°	3076	3027	3048
10°	3049	2984	3005
15°	3003	2932	2939
20°	2941	2862	2871
25°	2879	2777	2792
30°	2801	2699	2693
35°	2728	2606	2589
40°	2638	2513	2489
45°	2548	2420	2387
50°	2449	2321	2268
55°	2346	2207	2159
60°	2229	2073	2034
65°	2102	1933	1887
70°	1939	1762	1727
75°	1715	1557	1577
80°	1444	1296	1296
85°	1019	853	837

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2548 cd/sqm

TEST NUMBER: P915426

CATALOG NUMBER: DFN2DIP-TR3F0-080D090US927-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.1	1.8
10°-20°	653.0	5.2
20°-30°	959.7	7.6
30°-40°	1114.6	8.9
40°-50°	1113.2	8.8
50°-60°	970.7	7.7
60°-70°	717.6	5.7
70°-80°	406.0	3.2
80°-90°	113.6	0.9
90°-100°	139.5	1.1
100°-110°	443.3	3.5
110°-120°	758.7	6.0
120°-130°	997.8	7.9
130°-140°	1120.0	8.9
140°-150°	1098.2	8.7
150°-160°	921.3	7.3
160°-170°	611.0	4.9
170°-180°	213.5	1.7
0°-30°	1844.8	14.7
0°-40°	2959.4	23.5
0°-60°	5043.4	40.1
0°-90°	6280.5	49.9
90°-120°	1341.5	10.7
90°-150°	4557.5	36.2
90°-180°	6303.0	50.1
0°-180°	12583.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2466	2466	2466	2466	2466	
5°	2466	2457	2430	2449	2445	234
15°	2348	2333	2302	2312	2300	661
25°	2125	2106	2066	2070	2066	978
35°	1833	1809	1771	1757	1745	1145
45°	1492	1475	1439	1413	1404	1151
55°	1129	1114	1086	1058	1046	1009
65°	761	747	723	702	690	753
75°	398	394	382	368	372	425
85°	97	95	93	85	83	108
90°	2	24	67	62	65	12
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: P915426

CATALOG NUMBER: DFN2DIP-TR3F0-080D090US927-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2465.9	2465.9	2465.9	2465.9	2465.9
2.5°	2480.2	2468.4	2442.3	2465.9	2461.4
5°	2465.9	2456.6	2430.5	2449.3	2444.8
7.5°	2449.3	2435.2	2409.1	2428.2	2423.4
10°	2423.4	2406.8	2378.4	2397.2	2390.2
12.5°	2387.7	2373.6	2345.2	2357.0	2352.2
15°	2347.5	2333.4	2302.4	2312.0	2300.2
17.5°	2297.6	2283.5	2252.6	2264.4	2252.6
20°	2243.1	2229.0	2195.8	2202.8	2193.5
22.5°	2188.7	2167.3	2136.4	2136.4	2131.6
25°	2124.6	2105.7	2065.5	2070.0	2065.5
27.5°	2053.3	2036.8	2006.0	1999.0	1987.2
30°	1982.4	1963.3	1927.9	1920.8	1911.2
32.5°	1906.5	1892.4	1854.3	1840.0	1830.5
35°	1832.9	1809.3	1771.3	1757.0	1745.2
37.5°	1749.9	1728.5	1690.6	1674.0	1662.2
40°	1664.7	1645.5	1607.6	1586.4	1576.8
42.5°	1581.7	1562.5	1524.8	1500.9	1486.8
45°	1491.6	1475.0	1439.2	1413.3	1403.8
47.5°	1403.8	1387.2	1349.2	1323.0	1308.9
50°	1311.2	1299.4	1266.1	1233.0	1221.1
52.5°	1221.1	1204.5	1173.9	1147.7	1131.1
55°	1128.8	1114.4	1086.1	1057.6	1045.8
57.5°	1036.3	1024.4	993.5	965.0	955.4
60°	943.6	934.4	901.1	875.0	867.9
62.5°	853.6	837.0	813.3	789.7	780.1
65°	761.3	746.9	723.3	701.9	690.1
67.5°	666.4	654.3	633.2	616.6	607.0
70°	578.6	569.0	547.7	531.1	521.7
72.5°	488.5	479.0	467.1	450.6	443.5
75°	398.2	393.7	381.7	367.6	372.3
77.5°	317.7	308.2	303.4	296.4	289.3
80°	237.3	234.7	230.0	222.9	218.1
82.5°	161.3	161.3	159.0	149.4	149.4
85°	97.1	94.8	92.6	85.3	83.0
87.5°	42.8	38.0	33.2	26.1	23.7
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: P915426

CATALOG NUMBER: DFN2DIP-TR3F0-080D090US927-FLLFLL

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: P915426

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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	11.11	11.97	12.07	12.94	14.22	10.68	11.54	11.64	12.52	13.79
	3H	12.76	13.53	13.73	14.52	15.81	12.29	13.06	13.26	14.05	15.34
	4H	13.34	14.07	14.33	15.06	16.36	12.87	13.61	13.86	14.59	15.89
	6H	13.74	14.41	14.73	15.40	16.72	13.27	13.94	14.26	14.93	16.25
	8H	13.84	14.48	14.84	15.49	16.80	13.37	14.01	14.37	15.02	16.33
	12H	13.88	14.49	14.89	15.49	16.83	13.41	14.02	14.41	15.02	16.36
4H	2H	11.57	12.30	12.56	13.29	14.59	11.23	11.96	12.21	12.94	14.25
	3H	13.42	14.03	14.42	15.05	16.37	13.03	13.64	14.03	14.66	15.98
	4H	14.13	14.69	15.14	15.70	17.04	13.73	14.29	14.74	15.30	16.64
	6H	14.64	15.12	15.65	16.15	17.49	14.23	14.71	15.25	15.74	17.08
	8H	14.78	15.23	15.80	16.26	17.61	14.38	14.82	15.39	15.85	17.20
	12H	14.85	15.26	15.89	16.30	17.65	14.44	14.84	15.47	15.88	17.24
8H	4H	14.32	14.77	15.34	15.80	17.15	13.97	14.42	14.99	15.44	16.79
	6H	14.94	15.31	15.99	16.38	17.73	14.59	14.96	15.63	16.02	17.37
	8H	15.16	15.48	16.21	16.54	17.91	14.79	15.12	15.84	16.17	17.54
	12H	15.28	15.57	16.34	16.62	18.03	14.90	15.19	15.96	16.24	17.65
12H	4H	14.31	14.71	15.35	15.75	17.11	13.96	14.36	15.00	15.40	16.76
	6H	14.97	15.30	16.02	16.35	17.72	14.62	14.95	15.67	16.00	17.37
	8H	15.21	15.49	16.26	16.54	17.95	14.85	15.14	15.91	16.19	17.60