

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: P904432

Luminaire Tested: DFN2DIP-TR3F0-050D080US830-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P904432
REPORT IS A COMBINATION OF REPORTS P900345 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-050D080US830-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

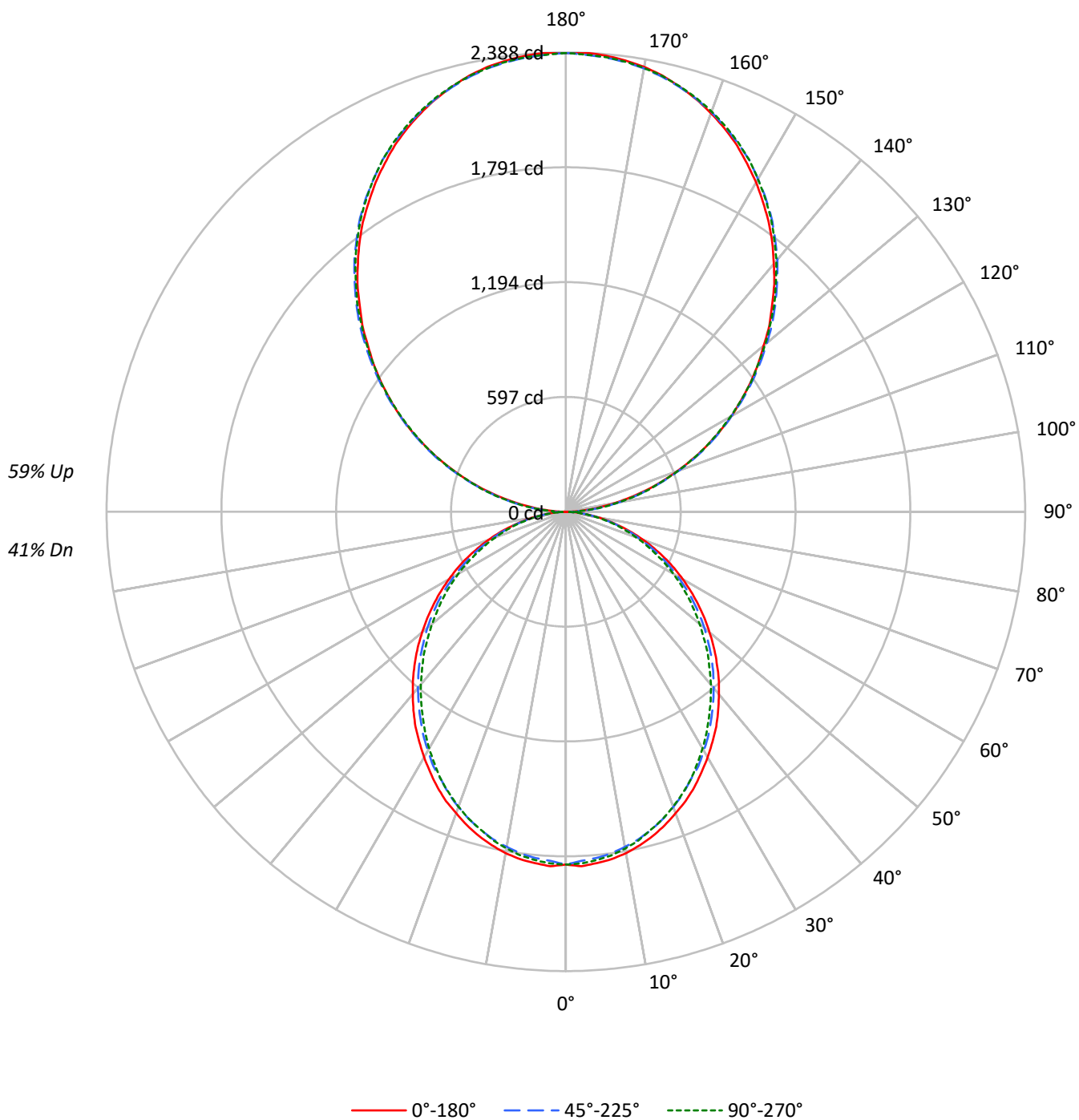
Lumens per Lamp: N/A
Luminaire Lumens: 11338.8 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 106.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P904432

CATALOG NUMBER: DFN2DIP-TR3F0-050D080US830-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P904432

CATALOG NUMBER: DFN2DIP-TR3F0-050D080US830-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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48
1	96	92	88	84	87	84	80	77	69	66	64	55	53	52	42	41	41
2	87	80	74	69	79	73	68	63	60	56	53	48	46	43	37	36	34
3	80	70	63	57	72	64	58	53	53	48	45	43	39	37	33	31	29
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	30	27	25
5	67	55	47	41	61	51	44	38	42	37	33	34	30	27	27	24	22
6	61	50	42	36	56	46	38	33	38	33	29	31	27	24	24	21	19
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17
8	53	40	33	28	48	37	31	26	31	26	22	26	22	19	20	17	15
9	49	37	30	25	45	34	27	23	29	23	20	24	20	17	19	16	14
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2285	2285	2285
5°	2287	2251	2267
10°	2268	2219	2235
15°	2233	2181	2185
20°	2187	2128	2135
25°	2141	2065	2076
30°	2083	2007	2003
35°	2028	1938	1925
40°	1962	1869	1851
45°	1895	1799	1775
50°	1822	1726	1687
55°	1745	1641	1606
60°	1658	1541	1513
65°	1563	1437	1403
70°	1442	1310	1285
75°	1275	1158	1173
80°	1073	963	964
85°	758	634	622

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2328 cd/sqm

TEST NUMBER: P904432

CATALOG NUMBER: DFN2DIP-TR3F0-050D080US830-FLLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.6	1.5
10°-20°	485.6	4.3
20°-30°	713.7	6.3
30°-40°	828.9	7.3
40°-50°	827.8	7.3
50°-60°	721.8	6.4
60°-70°	533.6	4.7
70°-80°	301.9	2.7
80°-90°	86.5	0.8
90°-100°	147.6	1.3
100°-110°	468.9	4.1
110°-120°	802.4	7.1
120°-130°	1055.3	9.3
130°-140°	1184.5	10.4
140°-150°	1161.5	10.2
150°-160°	974.4	8.6
160°-170°	646.2	5.7
170°-180°	225.9	2.0
0°-30°	1371.9	12.1
0°-40°	2200.7	19.4
0°-60°	3750.4	33.1
0°-90°	4672.4	41.2
90°-120°	1418.8	12.5
90°-150°	4820.1	42.5
90°-180°	6666.0	58.8
0°-180°	11338.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1834	1834	1834	1834	1834	
5°	1834	1827	1807	1821	1818	174
15°	1746	1735	1712	1719	1710	492
25°	1580	1566	1536	1539	1536	727
35°	1363	1346	1317	1307	1298	851
45°	1109	1097	1070	1051	1044	856
55°	839	829	808	786	778	750
65°	566	555	538	522	513	560
75°	296	293	284	273	277	316
85°	72	70	69	63	62	81
90°	2	26	70	66	68	11
95°	105	125	129	129	125	117
105°	433	439	443	446	446	457
115°	805	817	813	811	805	796
125°	1171	1189	1183	1177	1175	1047
135°	1515	1537	1541	1539	1534	1171
145°	1839	1853	1865	1867	1859	1149
155°	2103	2109	2115	2125	2119	968
165°	2288	2286	2286	2300	2290	645
175°	2380	2375	2370	2385	2372	226
180°	2385	2385	2385	2385	2385	

TEST NUMBER: P904432

CATALOG NUMBER: DFN2DIP-TR3F0-050D080US830-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1833.7	1833.7	1833.7	1833.7	1833.7
2.5°	1844.4	1835.6	1816.2	1833.7	1830.4
5°	1833.7	1826.8	1807.3	1821.4	1818.1
7.5°	1821.4	1810.9	1791.5	1805.7	1802.1
10°	1802.1	1789.8	1768.7	1782.6	1777.4
12.5°	1775.6	1765.1	1744.0	1752.8	1749.2
15°	1745.6	1735.1	1712.1	1719.3	1710.4
17.5°	1708.5	1698.1	1675.1	1683.9	1675.1
20°	1668.0	1657.6	1632.9	1638.0	1631.2
22.5°	1627.6	1611.7	1588.7	1588.7	1585.1
25°	1579.9	1565.8	1535.9	1539.3	1535.9
27.5°	1526.9	1514.6	1491.8	1486.5	1477.7
30°	1474.1	1460.0	1433.6	1428.3	1421.3
32.5°	1417.7	1407.2	1378.9	1368.3	1361.2
35°	1363.0	1345.5	1317.2	1306.6	1297.8
37.5°	1301.3	1285.4	1257.2	1244.8	1236.0
40°	1237.9	1223.7	1195.4	1179.7	1172.6
42.5°	1176.2	1162.0	1133.9	1116.1	1105.6
45°	1109.2	1096.8	1070.3	1051.0	1043.9
47.5°	1043.9	1031.5	1003.3	983.8	973.4
50°	975.1	966.3	941.6	916.9	908.0
52.5°	908.0	895.7	872.9	853.5	841.1
55°	839.4	828.8	807.6	786.5	777.7
57.5°	770.5	761.8	738.8	717.7	710.5
60°	701.7	694.8	670.1	650.6	645.5
62.5°	634.8	622.5	604.8	587.2	580.1
65°	566.1	555.4	537.8	522.0	513.1
67.5°	495.6	486.6	470.9	458.5	451.4
70°	430.3	423.2	407.3	394.9	388.0
72.5°	363.4	356.2	347.4	335.1	329.8
75°	296.1	292.8	283.8	273.3	276.9
77.5°	236.3	229.1	225.6	220.4	215.2
80°	176.4	174.6	171.0	165.8	162.2
82.5°	119.9	119.9	118.2	111.1	111.1
85°	72.2	70.5	68.8	63.4	61.7
87.5°	31.8	28.3	24.7	19.4	17.6
90°	2.2	25.9	70.5	66.2	68.3
92.5°	44.6	60.4	62.6	64.7	64.7
95°	105.0	125.1	128.7	128.7	125.1
97.5°	174.7	193.4	201.3	201.3	201.3
100°	255.2	271.7	277.5	277.5	275.3
102.5°	340.1	352.3	360.1	362.3	360.1
105°	432.8	438.6	442.9	446.5	446.5
107.5°	524.8	533.5	533.5	534.9	524.8
110°	614.0	625.5	625.5	625.5	619.7

TEST NUMBER: P904432

CATALOG NUMBER: DFN2DIP-TR3F0-050D080US830-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	710.3	722.6	720.4	714.6	710.3
115°	805.2	816.7	813.1	811.0	805.2
117.5°	899.4	915.2	905.1	899.4	893.6
120°	994.3	1010.1	994.3	994.3	987.8
122.5°	1080.5	1100.7	1090.6	1084.9	1080.5
125°	1171.1	1189.1	1183.4	1176.9	1174.8
127.5°	1259.6	1281.9	1273.9	1265.4	1259.6
130°	1342.3	1368.1	1364.5	1360.3	1352.4
132.5°	1435.0	1455.1	1456.6	1446.5	1440.8
135°	1514.8	1537.1	1541.4	1539.3	1533.5
137.5°	1603.9	1621.9	1625.5	1624.1	1615.4
140°	1682.3	1700.3	1710.3	1710.3	1702.4
142.5°	1762.8	1780.8	1786.6	1788.8	1780.8
145°	1839.1	1853.4	1864.9	1867.1	1859.2
147.5°	1907.3	1925.3	1933.9	1937.6	1929.7
150°	1977.8	1990.0	1997.9	2004.4	1997.9
152.5°	2040.3	2052.6	2062.7	2070.6	2062.7
155°	2102.9	2108.7	2115.2	2125.2	2118.7
157.5°	2156.8	2161.2	2164.7	2179.1	2169.1
160°	2205.0	2209.3	2211.5	2223.6	2215.1
162.5°	2249.6	2249.6	2251.7	2265.4	2255.3
165°	2287.6	2285.5	2285.5	2299.9	2289.8
167.5°	2322.1	2315.7	2315.7	2330.1	2320.0
170°	2348.1	2342.3	2340.1	2354.6	2342.3
172.5°	2366.1	2360.3	2358.1	2372.5	2360.3
175°	2380.4	2374.6	2370.3	2384.7	2372.5
177.5°	2388.3	2382.6	2378.2	2390.5	2378.2
180°	2384.7	2384.7	2384.7	2384.7	2384.7

TEST NUMBER: P904432

CATALOG NUMBER: DFN2DIP-TR3F0-050D080US830-FLLFLL

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	9.22	10.01	10.25	11.04	12.43	8.79	9.58	9.82	10.61	12.01
	3H	10.86	11.57	11.90	12.61	14.03	10.40	11.10	11.43	12.15	13.56
	4H	11.44	12.11	12.49	13.16	14.58	10.97	11.64	12.02	12.69	14.11
	6H	11.83	12.45	12.89	13.50	14.93	11.36	11.98	12.42	13.03	14.46
	8H	11.93	12.52	12.99	13.58	15.01	11.46	12.05	12.53	13.12	14.54
	12H	11.97	12.53	13.04	13.59	15.04	11.50	12.05	12.57	13.12	14.57
4H	2H	9.67	10.34	10.72	11.38	12.80	9.32	9.99	10.38	11.04	12.46
	3H	11.52	12.07	12.58	13.15	14.58	11.13	11.68	12.19	12.76	14.19
	4H	12.22	12.73	13.29	13.80	15.25	11.82	12.33	12.89	13.40	14.85
	6H	12.72	13.16	13.80	14.25	15.70	12.32	12.76	13.40	13.85	15.29
	8H	12.86	13.28	13.95	14.36	15.82	12.46	12.87	13.54	13.95	15.41
	12H	12.93	13.30	14.03	14.40	15.86	12.51	12.89	13.61	13.98	15.45
8H	4H	12.41	12.82	13.49	13.90	15.36	12.05	12.46	13.13	13.54	15.00
	6H	13.02	13.36	14.13	14.49	15.95	12.66	13.00	13.77	14.13	15.59
	8H	13.24	13.53	14.35	14.64	16.12	12.87	13.17	13.98	14.28	15.76
	12H	13.36	13.62	14.47	14.72	16.24	12.98	13.24	14.09	14.34	15.86
12H	4H	12.39	12.76	13.49	13.85	15.32	12.04	12.41	13.14	13.51	14.97
	6H	13.05	13.35	14.16	14.45	15.93	12.70	13.00	13.81	14.11	15.59
	8H	13.28	13.54	14.40	14.65	16.16	12.93	13.19	14.04	14.29	15.81