

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: P907024

Luminaire Tested: DFN2DIP-TR2F0-030D060US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907024
REPORT IS A COMBINATION OF REPORTS P900263 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D060US835-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

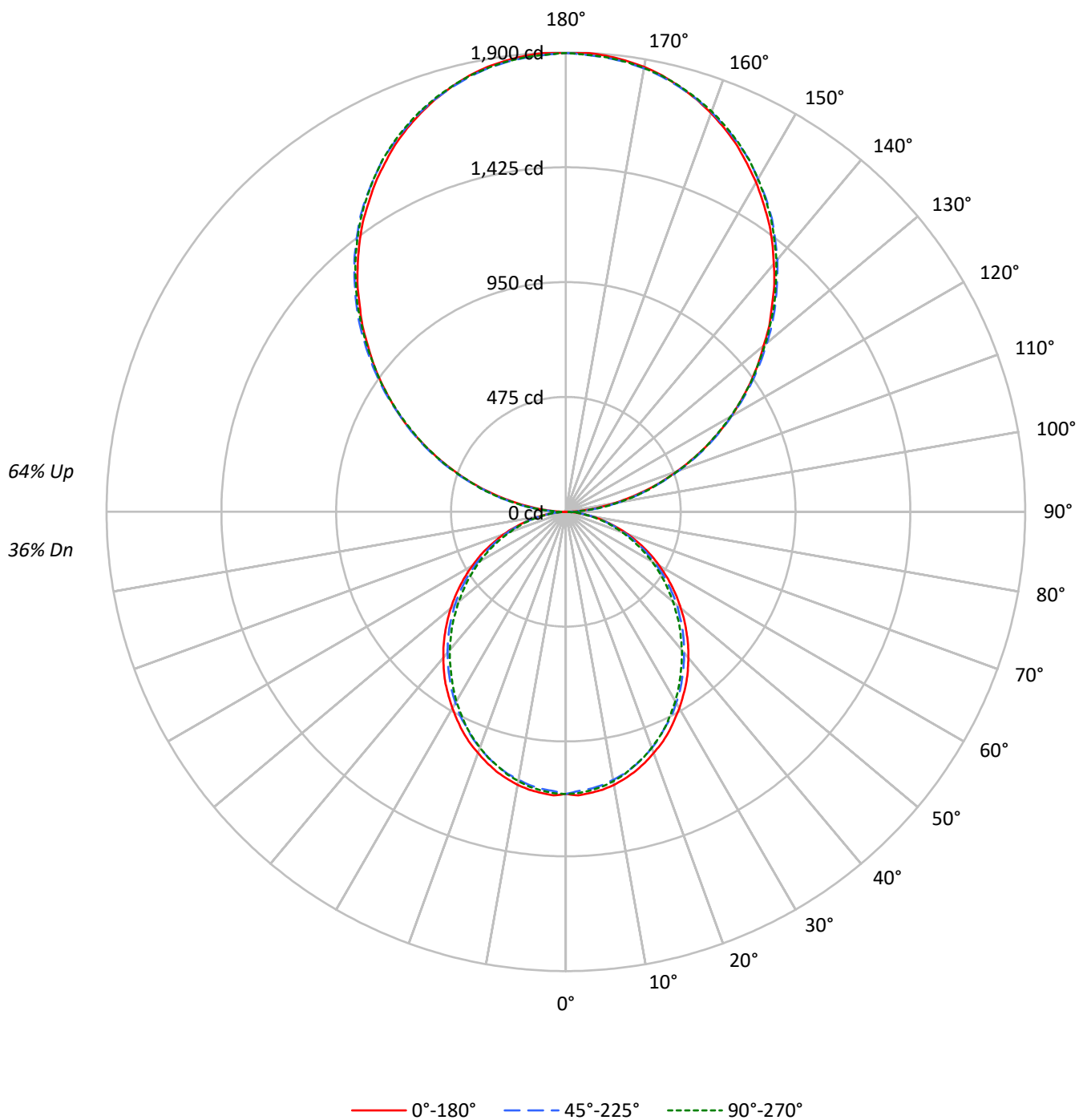
Lumens per Lamp: N/A
Luminaire Lumens: 8280.0 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 73.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P907024

CATALOG NUMBER: DFN2DIP-TR2F0-030D060US835-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P907024

CATALOG NUMBER: DFN2DIP-TR2F0-030D060US835-FLLFL

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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43
1	95	90	87	83	85	82	79	76	66	64	62	52	50	49	38	37	36
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26
4	72	61	54	48	65	56	49	44	45	40	37	36	32	29	27	24	22
5	66	54	47	41	59	50	43	38	40	35	31	32	28	25	24	22	20
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2604	2604	2604
5°	2604	2561	2580
10°	2579	2521	2541
15°	2537	2474	2482
20°	2482	2410	2421
25°	2427	2336	2352
30°	2359	2266	2266
35°	2295	2184	2175
40°	2216	2102	2088
45°	2137	2019	1998
50°	2050	1931	1895
55°	1960	1830	1800
60°	1856	1712	1690
65°	1744	1587	1560
70°	1600	1436	1420
75°	1403	1255	1285
80°	1163	1023	1039
85°	793	645	645

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2476 cd/sqm

TEST NUMBER: P907024

CATALOG NUMBER: DFN2DIP-TR2F0-030D060US835-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.9	1.3
10°-20°	309.1	3.7
20°-30°	454.3	5.5
30°-40°	527.6	6.4
40°-50°	527.0	6.4
50°-60°	459.5	5.5
60°-70°	339.7	4.1
70°-80°	192.2	2.3
80°-90°	56.1	0.7
90°-100°	117.4	1.4
100°-110°	373.1	4.5
110°-120°	638.5	7.7
120°-130°	839.7	10.1
130°-140°	942.5	11.4
140°-150°	924.2	11.2
150°-160°	775.3	9.4
160°-170°	514.2	6.2
170°-180°	179.7	2.2
0°-30°	873.3	10.5
0°-40°	1400.9	16.9
0°-60°	2387.4	28.8
0°-90°	2975.4	35.9
90°-120°	1129.0	13.6
90°-150°	3835.4	46.3
90°-180°	5305.0	64.1
0°-180°	8280.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1167	1167	1167	1167	1167	
5°	1167	1163	1150	1160	1157	111
15°	1111	1105	1090	1094	1089	313
25°	1006	997	978	980	978	463
35°	868	856	838	832	826	542
45°	706	698	681	669	664	545
55°	534	528	514	501	495	478
65°	360	354	342	332	327	356
75°	188	186	181	174	176	201
85°	46	45	44	40	39	51
90°	2	21	56	53	54	8
95°	84	100	102	102	100	93
105°	344	349	352	355	355	363
115°	641	650	647	645	641	634
125°	932	946	942	936	935	833
135°	1205	1223	1226	1225	1220	932
145°	1463	1475	1484	1486	1479	914
155°	1673	1678	1683	1691	1686	770
165°	1820	1819	1819	1830	1822	514
175°	1894	1890	1886	1898	1888	180
180°	1898	1898	1898	1898	1898	

TEST NUMBER: P907024

CATALOG NUMBER: DFN2DIP-TR2F0-030D060US835-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1167.3	1167.3	1167.3	1167.3	1167.3
2.5°	1174.1	1168.5	1156.1	1167.3	1165.2
5°	1167.3	1162.9	1150.5	1159.5	1157.3
7.5°	1159.5	1152.8	1140.4	1149.5	1147.2
10°	1147.2	1139.3	1125.9	1134.8	1131.5
12.5°	1130.3	1123.6	1110.2	1115.7	1113.5
15°	1111.2	1104.6	1089.9	1094.4	1088.8
17.5°	1087.6	1081.0	1066.3	1071.9	1066.3
20°	1061.8	1055.1	1039.4	1042.7	1038.3
22.5°	1036.1	1026.0	1011.3	1011.3	1009.0
25°	1005.7	996.8	977.7	979.9	977.7
27.5°	972.0	964.1	949.6	946.3	940.7
30°	938.4	929.4	912.6	909.2	904.7
32.5°	902.5	895.8	877.8	871.0	866.5
35°	867.7	856.5	838.5	831.7	826.1
37.5°	828.4	818.3	800.3	792.4	786.8
40°	788.0	779.0	761.0	751.0	746.5
42.5°	748.7	739.7	721.8	710.5	703.8
45°	706.1	698.2	681.3	669.0	664.5
47.5°	664.5	656.7	638.7	626.3	619.6
50°	620.7	615.1	599.4	583.7	578.1
52.5°	578.1	570.2	555.7	543.3	535.4
55°	534.4	527.6	514.1	500.7	495.1
57.5°	490.5	484.9	470.3	456.8	452.3
60°	446.7	442.3	426.6	414.2	410.9
62.5°	404.1	396.2	385.0	373.8	369.3
65°	360.4	353.6	342.4	332.3	326.7
67.5°	315.5	309.8	299.7	291.9	287.4
70°	273.9	269.4	259.3	251.4	247.0
72.5°	231.3	226.7	221.1	213.3	210.0
75°	188.5	186.4	180.7	174.0	176.3
77.5°	150.4	145.9	143.6	140.3	137.0
80°	112.3	111.1	108.8	105.5	103.3
82.5°	76.3	76.3	75.3	70.7	70.7
85°	46.0	44.9	43.8	40.4	39.3
87.5°	20.2	18.0	15.7	12.4	11.2
90°	1.7	20.6	56.1	52.6	54.3
92.5°	35.5	48.1	49.8	51.5	51.5
95°	83.5	99.5	102.4	102.4	99.5
97.5°	139.0	153.9	160.2	160.2	160.2
100°	203.1	216.2	220.8	220.8	219.1
102.5°	270.6	280.3	286.6	288.3	286.6
105°	344.4	349.0	352.4	355.3	355.3
107.5°	417.6	424.5	424.5	425.6	417.6
110°	488.6	497.7	497.7	497.7	493.1

TEST NUMBER: P907024

CATALOG NUMBER: DFN2DIP-TR2F0-030D060US835-FLLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	565.2	574.9	573.2	568.6	565.2
115°	640.7	649.9	647.0	645.3	640.7
117.5°	715.7	728.3	720.2	715.7	711.1
120°	791.2	803.8	791.2	791.2	786.0
122.5°	859.8	875.8	867.8	863.3	859.8
125°	931.9	946.2	941.6	936.5	934.8
127.5°	1002.3	1020.0	1013.7	1006.9	1002.3
130°	1068.1	1088.7	1085.8	1082.4	1076.1
132.5°	1141.9	1157.9	1159.0	1151.0	1146.4
135°	1205.4	1223.1	1226.5	1224.8	1220.2
137.5°	1276.3	1290.6	1293.5	1292.3	1285.5
140°	1338.7	1353.0	1361.0	1361.0	1354.7
142.5°	1402.7	1417.0	1421.6	1423.3	1417.0
145°	1463.4	1474.8	1484.0	1485.7	1479.4
147.5°	1517.7	1532.0	1538.9	1541.7	1535.4
150°	1573.8	1583.5	1589.8	1594.9	1589.8
152.5°	1623.5	1633.3	1641.3	1647.6	1641.3
155°	1673.3	1677.9	1683.0	1691.1	1685.9
157.5°	1716.2	1719.7	1722.5	1734.0	1726.0
160°	1754.6	1758.0	1759.7	1769.4	1762.6
162.5°	1790.0	1790.0	1791.7	1802.6	1794.6
165°	1820.3	1818.6	1818.6	1830.1	1822.1
167.5°	1847.8	1842.7	1842.7	1854.1	1846.1
170°	1868.4	1863.8	1862.1	1873.5	1863.8
172.5°	1882.7	1878.1	1876.4	1887.8	1878.1
175°	1894.1	1889.6	1886.1	1897.6	1887.8
177.5°	1900.4	1895.9	1892.4	1902.1	1892.4
180°	1897.6	1897.6	1897.6	1897.6	1897.6

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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	9.00	9.75	10.07	10.82	12.28	8.58	9.33	9.65	10.40	11.86
	3H	10.63	11.30	11.71	12.38	13.86	10.17	10.84	11.25	11.92	13.40
	4H	11.20	11.83	12.29	12.92	14.40	10.74	11.37	11.83	12.46	13.94
	6H	11.57	12.16	12.67	13.24	14.74	11.11	11.70	12.21	12.78	14.28
	8H	11.67	12.22	12.77	13.32	14.81	11.21	11.76	12.31	12.87	14.35
	12H	11.70	12.23	12.81	13.33	14.84	11.24	11.77	12.35	12.86	14.37
4H	2H	9.44	10.08	10.54	11.16	12.64	9.10	9.74	10.20	10.82	12.30
	3H	11.27	11.80	12.37	12.91	14.40	10.89	11.42	11.99	12.52	14.02
	4H	11.96	12.45	13.07	13.55	15.06	11.57	12.05	12.67	13.15	14.67
	6H	12.45	12.87	13.56	13.99	15.50	12.05	12.47	13.17	13.59	15.10
	8H	12.58	12.97	13.70	14.09	15.61	12.19	12.58	13.30	13.69	15.21
	12H	12.64	12.99	13.77	14.12	15.65	12.23	12.59	13.37	13.71	15.24
8H	4H	12.14	12.53	13.25	13.64	15.17	11.79	12.18	12.90	13.29	14.82
	6H	12.74	13.06	13.87	14.21	15.74	12.39	12.71	13.52	13.86	15.38
	8H	12.94	13.22	14.08	14.36	15.90	12.58	12.87	13.73	14.00	15.54
	12H	13.05	13.30	14.20	14.43	16.01	12.68	12.93	13.83	14.06	15.64
12H	4H	12.12	12.47	13.25	13.60	15.13	11.77	12.13	12.90	13.25	14.78
	6H	12.76	13.04	13.90	14.18	15.72	12.42	12.70	13.56	13.84	15.38
	8H	12.98	13.23	14.13	14.36	15.94	12.63	12.88	13.78	14.01	15.59

END OF REPORT