

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: P907005

Luminaire Tested: DFN2DIP-TR2F0-020D060US835-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907005
REPORT IS A COMBINATION OF REPORTS P901781 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-020D060US835-FLLONL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

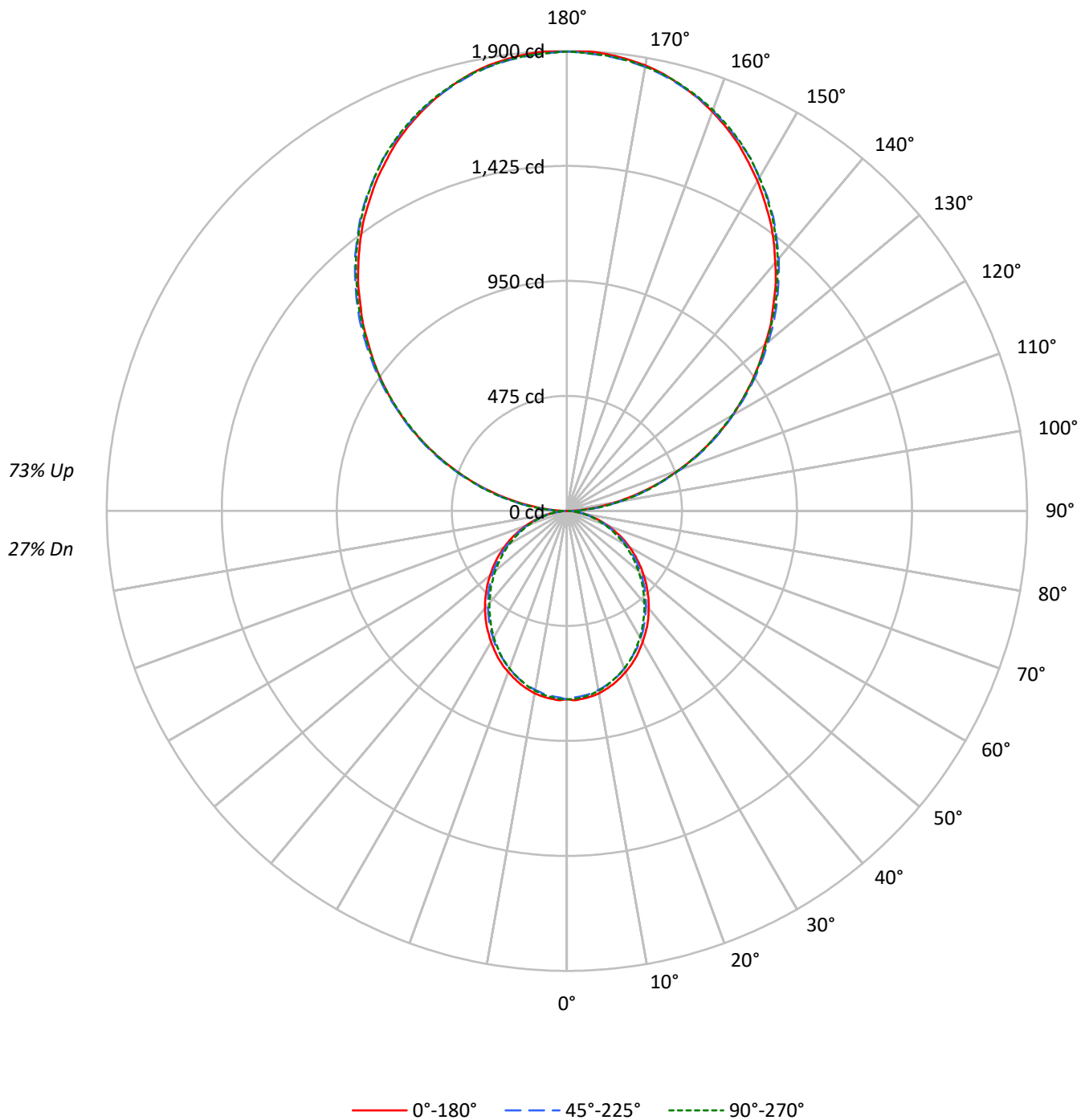
Lumens per Lamp: N/A
Luminaire Lumens: 7290.0 lumens
Efficiency: N/A
Efficacy: 114.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 63.6
Input Voltage (V): 120
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

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Luminous Intensity Polar Plot



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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	102	102	102	102	91	91	91	91	71	71	71	52	52	52	35	35	35
1	93	88	85	81	83	79	76	73	62	60	58	46	44	43	31	30	30
2	84	77	71	66	75	69	64	60	54	51	48	40	38	36	27	26	25
3	77	68	61	55	68	61	55	50	48	44	40	35	33	30	24	23	21
4	70	60	52	47	62	54	47	42	42	38	34	32	29	26	22	20	18
5	64	53	45	40	57	48	41	36	38	33	29	28	25	22	19	17	16
6	59	48	40	34	53	43	36	31	34	29	25	25	22	20	18	16	14
7	55	43	35	30	49	39	32	27	31	26	22	23	20	17	16	14	12
8	51	39	31	26	45	35	28	24	28	23	20	21	18	15	15	13	11
9	47	35	28	23	42	32	26	21	25	21	17	19	16	14	14	11	10
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	13	10	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1736	1736	1736
5°	1736	1708	1720
10°	1719	1681	1694
15°	1691	1649	1654
20°	1655	1607	1614
25°	1618	1557	1568
30°	1573	1511	1511
35°	1530	1456	1450
40°	1477	1401	1392
45°	1424	1346	1332
50°	1367	1288	1264
55°	1306	1220	1199
60°	1238	1141	1126
65°	1162	1058	1040
70°	1067	957	947
75°	935	836	856
80°	776	683	692
85°	528	430	430

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2476 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.2	1.0
10°-20°	206.1	2.8
20°-30°	302.9	4.2
30°-40°	351.8	4.8
40°-50°	351.3	4.8
50°-60°	306.3	4.2
60°-70°	226.5	3.1
70°-80°	128.1	1.8
80°-90°	39.2	0.5
90°-100°	117.4	1.6
100°-110°	373.1	5.1
110°-120°	638.5	8.8
120°-130°	839.7	11.5
130°-140°	942.5	12.9
140°-150°	924.2	12.7
150°-160°	775.3	10.6
160°-170°	514.2	7.1
170°-180°	179.7	2.5
0°-30°	582.2	8.0
0°-40°	934.0	12.8
0°-60°	1591.6	21.8
0°-90°	1985.4	27.2
90°-120°	1129.0	15.5
90°-150°	3835.4	52.6
90°-180°	5305.0	72.8
0°-180°	7290.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	778	778	778	778	778	
5°	778	775	767	773	772	74
15°	741	736	727	730	726	209
25°	670	664	652	653	652	309
35°	578	571	559	554	551	361
45°	471	466	454	446	443	363
55°	356	352	343	334	330	318
65°	240	236	228	222	218	238
75°	126	124	120	116	118	134
85°	31	30	29	27	26	34
90°	2	21	56	53	54	7
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	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	778.2	778.2	778.2	778.2	778.2
2.5°	782.7	779.0	770.7	778.2	776.8
5°	778.2	775.3	767.0	773.0	771.5
7.5°	773.0	768.5	760.3	766.3	764.8
10°	764.8	759.6	750.6	756.5	754.3
12.5°	753.5	749.1	740.1	743.8	742.3
15°	740.8	736.4	726.6	729.6	725.9
17.5°	725.1	720.7	710.9	714.6	710.9
20°	707.9	703.4	692.9	695.2	692.2
22.5°	690.7	684.0	674.2	674.2	672.7
25°	670.5	664.5	651.8	653.2	651.8
27.5°	648.0	642.8	633.1	630.9	627.1
30°	625.6	619.6	608.4	606.2	603.1
32.5°	601.6	597.2	585.2	580.7	577.7
35°	578.5	571.0	559.0	554.5	550.7
37.5°	552.3	545.5	533.5	528.3	524.5
40°	525.3	519.3	507.3	500.7	497.6
42.5°	499.1	493.1	481.2	473.7	469.2
45°	470.7	465.5	454.2	446.0	443.0
47.5°	443.0	437.8	425.8	417.5	413.1
50°	413.8	410.1	399.6	389.1	385.4
52.5°	385.4	380.1	370.4	362.2	357.0
55°	356.2	351.7	342.7	333.8	330.0
57.5°	327.0	323.3	313.5	304.6	301.5
60°	297.8	294.9	284.4	276.1	273.9
62.5°	269.4	264.1	256.7	249.2	246.2
65°	240.2	235.7	228.3	221.5	217.8
67.5°	210.3	206.5	199.8	194.6	191.6
70°	182.6	179.6	172.8	167.6	164.7
72.5°	154.2	151.2	147.4	142.2	140.0
75°	125.7	124.3	120.4	116.0	117.5
77.5°	100.3	97.3	95.7	93.5	91.3
80°	74.9	74.1	72.6	70.3	68.8
82.5°	50.9	50.9	50.2	47.2	47.2
85°	30.6	29.9	29.2	26.9	26.2
87.5°	13.5	12.0	10.5	8.3	7.5
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

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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	6.45	7.14	7.58	8.26	9.82	6.03	6.71	7.16	7.84	9.40
	3H	8.07	8.69	9.21	9.82	11.40	7.61	8.23	8.75	9.36	10.94
	4H	8.64	9.22	9.78	10.35	11.94	8.18	8.76	9.32	9.89	11.48
	6H	9.01	9.55	10.17	10.68	12.28	8.55	9.09	9.70	10.22	11.82
	8H	9.10	9.61	10.26	10.76	12.35	8.64	9.15	9.80	10.30	11.89
	12H	9.13	9.62	10.30	10.76	12.37	8.67	9.16	9.83	10.30	11.91
4H	2H	6.88	7.47	8.04	8.60	10.18	6.54	7.13	7.70	8.26	9.84
	3H	8.70	9.19	9.86	10.35	11.94	8.32	8.81	9.48	9.96	11.56
	4H	9.39	9.84	10.55	10.99	12.60	9.00	9.45	10.16	10.59	12.21
	6H	9.87	10.26	11.04	11.43	13.03	9.48	9.86	10.65	11.03	12.64
	8H	10.01	10.37	11.18	11.53	13.15	9.61	9.97	10.78	11.13	12.75
	12H	10.06	10.39	11.25	11.56	13.19	9.66	9.98	10.84	11.15	12.78
8H	4H	9.56	9.92	10.73	11.08	12.70	9.21	9.57	10.38	10.73	12.35
	6H	10.16	10.46	11.35	11.66	13.28	9.81	10.10	10.99	11.31	12.92
	8H	10.36	10.62	11.56	11.80	13.44	10.01	10.26	11.20	11.44	13.08
	12H	10.47	10.70	11.67	11.88	13.55	10.10	10.33	11.30	11.51	13.18
12H	4H	9.54	9.86	10.72	11.03	12.66	9.19	9.52	10.38	10.69	12.32
	6H	10.18	10.44	11.38	11.62	13.26	9.84	10.10	11.03	11.28	12.92
	8H	10.40	10.63	11.60	11.80	13.48	10.05	10.28	11.25	11.46	13.13

END OF REPORT