

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: P905594

Luminaire Tested: DFN2DIP-PN2F0-020D060US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905594
REPORT IS A COMBINATION OF REPORTS P899502 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-020D060US835-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

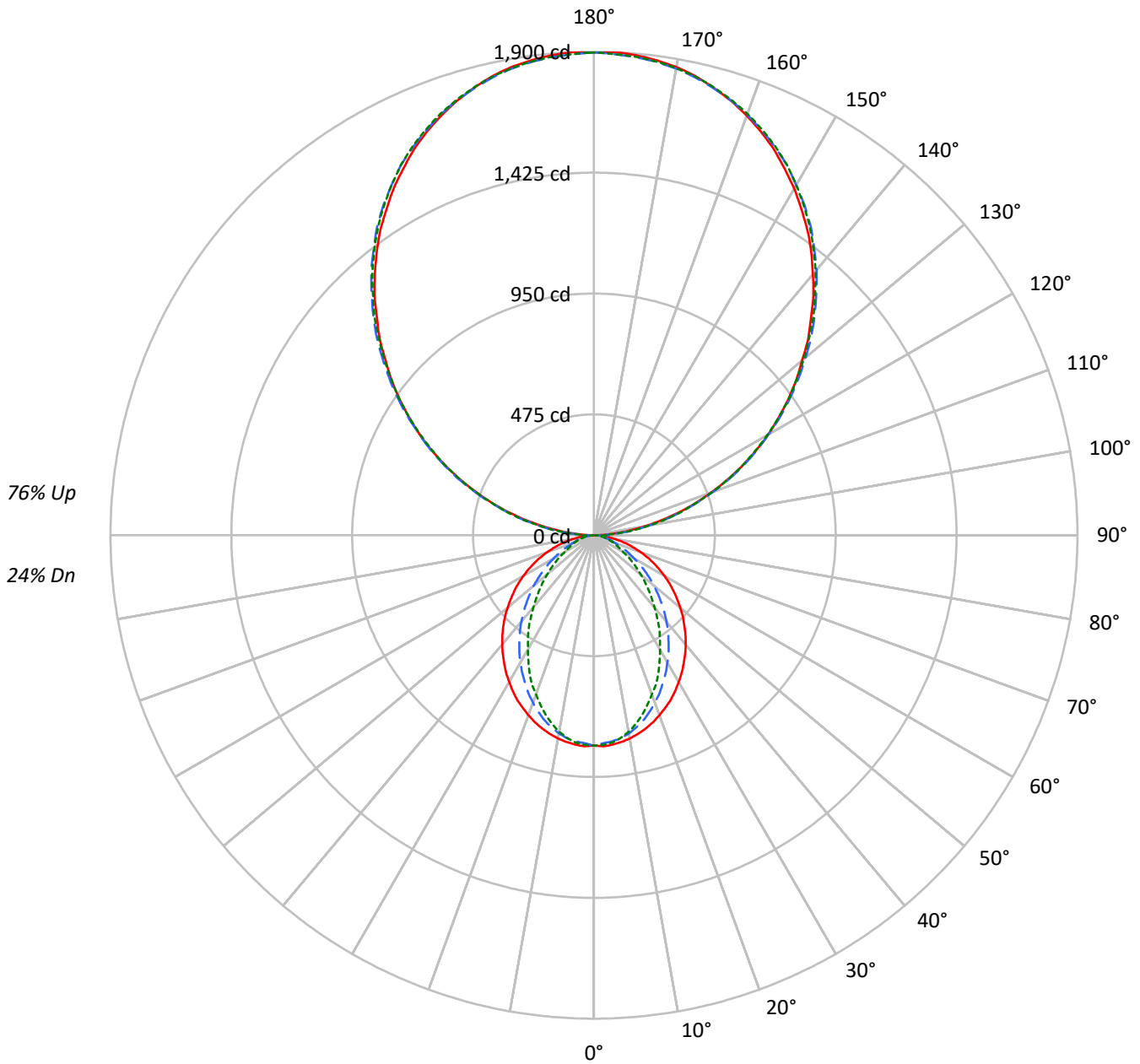
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7010.0 lumens
Efficiency: N/A
Efficacy: 101.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 69
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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



— 0°-180° - - 45°-225° - - - 90°-270°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20	
RC	80				70				50				30				10				0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33	24				24
1	92	88	85	81	82	79	76	73	61	59	57	44	43	42	29	28	28	21				21
2	84	77	71	67	75	69	64	60	53	50	47	39	37	35	26	25	24	18				18
3	77	68	61	56	68	61	55	50	47	43	40	35	32	30	23	22	20	15				15
4	70	60	53	47	62	54	48	43	42	38	34	31	28	26	21	19	18	13				13
5	64	54	46	40	57	48	42	37	38	33	29	28	25	22	19	17	16	12				12
6	59	48	40	35	53	43	37	32	34	29	26	25	22	20	17	15	14	11				11
7	55	43	36	30	49	39	32	28	31	26	23	23	20	17	16	14	12	9				9
8	51	39	32	27	45	35	29	24	28	23	20	21	18	16	14	12	11	8				8
9	47	36	29	24	42	32	26	22	25	21	18	19	16	14	13	11	10	8				8
10	44	33	26	21	39	29	23	19	23	19	16	18	15	13	12	10	9	7				7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1790	1790	1790
5°	1790	1758	1770
10°	1770	1720	1710
15°	1742	1659	1619
20°	1707	1577	1508
25°	1671	1486	1400
30°	1624	1393	1265
35°	1577	1294	1146
40°	1530	1191	1010
45°	1475	1077	887
50°	1418	963	767
55°	1358	842	652
60°	1289	715	534
65°	1209	587	478
70°	1112	468	429
75°	990	405	385
80°	814	329	325
85°	532	205	231

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 2557 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	1.1
10°-20°	212.7	3.0
20°-30°	298.6	4.3
30°-40°	325.5	4.6
40°-50°	299.1	4.3
50°-60°	234.9	3.4
60°-70°	152.9	2.2
70°-80°	78.7	1.1
80°-90°	25.5	0.4
90°-100°	117.4	1.7
100°-110°	373.1	5.3
110°-120°	638.5	9.1
120°-130°	839.7	12.0
130°-140°	942.5	13.4
140°-150°	924.2	13.2
150°-160°	775.3	11.1
160°-170°	514.2	7.3
170°-180°	179.7	2.6
0°-30°	588.7	8.4
0°-40°	914.2	13.0
0°-60°	1448.3	20.7
0°-90°	1705.4	24.3
90°-120°	1129.0	16.1
90°-150°	3835.4	54.7
90°-180°	5305.0	75.7
0°-180°	7010.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	827	823	813	820	818	78
15°	786	778	752	738	731	222
25°	714	690	640	610	598	328
35°	615	577	511	464	447	385
45°	503	452	374	321	303	388
55°	382	324	243	198	184	342
65°	258	198	130	105	102	256
75°	138	85	60	55	54	146
85°	32	16	14	14	14	37
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°	826.6	826.6	826.6	826.6	826.6
2.5°	830.3	826.6	818.3	825.9	824.4
5°	826.6	822.9	813.1	819.9	817.6
7.5°	819.9	815.4	804.9	807.9	804.1
10°	810.9	805.6	790.7	788.4	784.0
12.5°	799.7	792.9	772.7	768.3	760.0
15°	786.2	777.9	752.5	738.3	730.9
17.5°	770.5	758.5	727.1	710.6	698.7
20°	752.5	737.5	700.2	681.5	665.0
22.5°	733.1	715.9	672.5	647.1	635.9
25°	713.7	689.7	640.3	609.7	598.4
27.5°	690.5	665.0	610.4	575.2	558.0
30°	665.8	637.3	577.5	539.4	519.1
32.5°	641.8	607.4	546.1	501.2	482.5
35°	614.9	576.8	511.0	463.8	447.3
37.5°	588.7	547.5	478.0	426.4	407.7
40°	561.0	516.2	443.6	390.5	371.0
42.5°	532.6	484.8	409.2	353.8	335.2
45°	502.7	452.5	374.1	320.9	302.9
47.5°	474.3	421.2	340.4	287.2	270.8
50°	442.9	389.8	307.5	255.8	240.2
52.5°	412.1	356.0	276.0	226.7	212.5
55°	382.2	323.9	243.1	198.3	184.0
57.5°	351.6	291.7	214.0	172.1	160.1
60°	320.2	260.3	183.3	145.2	133.2
62.5°	289.5	229.7	157.1	121.2	115.2
65°	258.1	197.5	130.2	104.8	102.5
67.5°	228.2	167.5	104.8	92.0	89.8
70°	196.7	138.4	86.7	79.3	76.3
72.5°	166.8	111.4	72.5	66.6	65.1
75°	137.6	85.2	59.8	54.6	53.9
77.5°	108.5	60.6	47.1	44.1	42.6
80°	81.5	43.4	35.9	32.9	32.9
82.5°	56.8	29.2	24.7	23.2	23.2
85°	32.1	16.4	14.2	14.2	14.2
87.5°	12.0	6.0	6.0	5.2	5.2
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



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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	5.97	6.63	7.12	7.76	9.36	1.94	2.60	3.09	3.73	5.33
	3H	7.61	8.20	8.77	9.35	10.96	3.10	3.68	4.26	4.83	6.44
	4H	8.20	8.76	9.37	9.90	11.52	3.53	4.08	4.70	5.23	6.85
	6H	8.59	9.11	9.77	10.26	11.89	3.82	4.34	5.00	5.49	7.11
	8H	8.71	9.19	9.89	10.36	11.98	3.90	4.39	5.08	5.55	7.17
	12H	8.75	9.22	9.94	10.38	12.02	3.93	4.39	5.11	5.55	7.19
4H	2H	5.96	6.52	7.14	7.67	9.28	2.50	3.06	3.68	4.21	5.82
	3H	7.75	8.21	8.93	9.39	11.02	3.82	4.28	5.00	5.45	7.08
	4H	8.42	8.85	9.60	10.01	11.66	4.34	4.77	5.53	5.93	7.58
	6H	8.91	9.27	10.09	10.45	12.09	4.73	5.10	5.92	6.28	7.92
	8H	9.07	9.41	10.25	10.58	12.24	4.85	5.19	6.03	6.36	8.02
	12H	9.14	9.45	10.34	10.64	12.29	4.90	5.21	6.10	6.39	8.05
8H	4H	8.37	8.71	9.56	9.89	11.54	4.60	4.94	5.78	6.11	7.77
	6H	8.91	9.19	10.11	10.41	12.06	5.08	5.37	6.29	6.58	8.23
	8H	9.11	9.35	10.32	10.55	12.22	5.26	5.51	6.47	6.70	8.37
	12H	9.23	9.44	10.44	10.63	12.34	5.36	5.57	6.57	6.77	8.47
12H	4H	8.31	8.62	9.52	9.81	11.47	4.59	4.90	5.79	6.08	7.74
	6H	8.88	9.13	10.09	10.32	11.99	5.13	5.37	6.34	6.57	8.24
	8H	9.08	9.29	10.29	10.49	12.19	5.32	5.53	6.53	6.72	8.42