

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: P925310

Luminaire Tested: DFN2DIP-SQ2F0-030D070US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925310
REPORT IS A COMBINATION OF REPORTS P899820 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-030D070US950-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

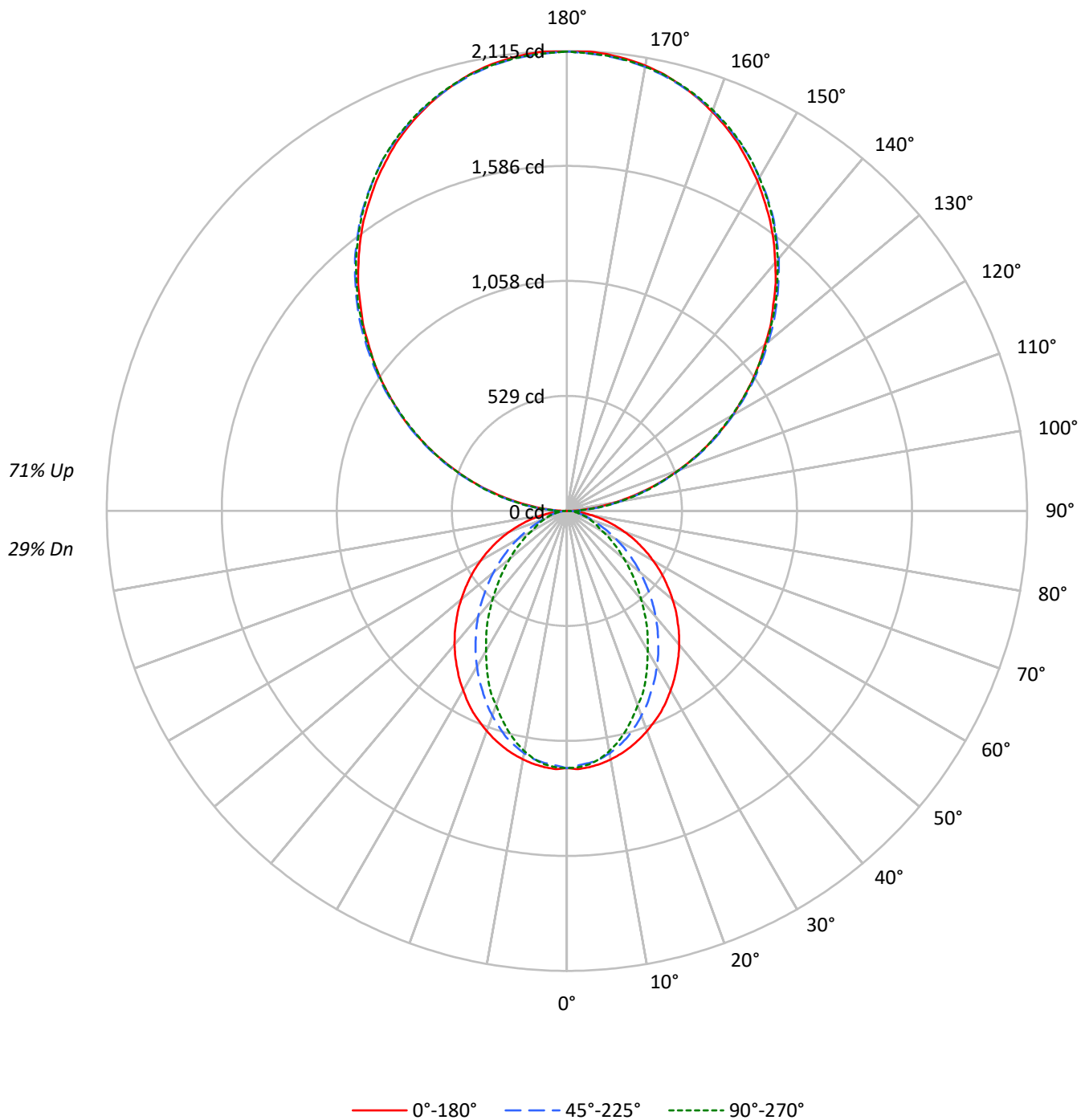
Lumens per Lamp: N/A
Luminaire Lumens: 8342.7 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 77.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
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	92	92	92	92	72	72	72	54	54	54	37	37	37
1	93	89	86	82	84	80	77	74	63	61	59	48	46	45	33	32	32
2	85	78	72	68	76	70	66	61	56	52	49	42	40	38	29	28	27
3	78	69	62	57	70	62	56	52	49	45	42	37	35	32	26	25	23
4	71	61	54	48	64	55	49	44	44	39	36	33	30	28	24	22	20
5	65	54	47	41	59	49	43	38	39	35	31	30	27	24	21	19	18
6	60	49	41	36	54	44	38	33	35	31	27	27	24	21	20	17	16
7	56	44	36	31	50	40	33	29	32	27	24	25	21	19	18	16	14
8	52	40	33	27	46	36	30	25	29	24	21	23	19	17	16	14	13
9	48	36	29	24	43	33	27	23	27	22	19	21	18	15	15	13	12
10	45	33	26	22	40	30	24	20	25	20	17	19	16	14	14	12	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2601	2601	2601
5°	2601	2554	2572
10°	2570	2498	2485
15°	2531	2410	2352
20°	2479	2291	2191
25°	2427	2159	2035
30°	2358	2024	1838
35°	2290	1878	1666
40°	2220	1729	1469
45°	2140	1565	1290
50°	2057	1399	1115
55°	1969	1222	949
60°	1868	1039	777
65°	1752	852	695
70°	1610	679	624
75°	1431	588	560
80°	1176	477	475
85°	765	296	338

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2943 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.9	1.3
10°-20°	304.3	3.6
20°-30°	427.3	5.1
30°-40°	465.7	5.6
40°-50°	428.1	5.1
50°-60°	336.2	4.0
60°-70°	218.8	2.6
70°-80°	112.6	1.4
80°-90°	34.8	0.4
90°-100°	130.7	1.6
100°-110°	415.3	5.0
110°-120°	710.6	8.5
120°-130°	934.6	11.2
130°-140°	1049.0	12.6
140°-150°	1028.7	12.3
150°-160°	862.9	10.3
160°-170°	572.3	6.9
170°-180°	200.0	2.4
0°-30°	842.5	10.1
0°-40°	1308.2	15.7
0°-60°	2072.5	24.8
0°-90°	2438.7	29.2
90°-120°	1256.6	15.1
90°-150°	4268.9	51.2
90°-180°	5904.0	70.8
0°-180°	8342.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1183	1183	1183	1183	1183	
5°	1183	1178	1164	1173	1170	112
15°	1125	1113	1077	1057	1046	317
25°	1021	987	916	872	856	470
35°	880	825	731	664	640	551
45°	719	648	535	459	434	556
55°	547	464	348	284	263	489
65°	369	283	186	150	147	366
75°	197	122	86	78	77	208
85°	46	24	20	20	20	53
90°	2	23	62	59	60	8
95°	93	111	114	114	111	103
105°	383	388	392	395	395	405
115°	713	723	720	718	713	705
125°	1037	1053	1048	1042	1040	927
135°	1342	1361	1365	1363	1358	1037
145°	1629	1642	1652	1654	1647	1018
155°	1862	1868	1873	1882	1876	857
165°	2026	2024	2024	2037	2028	572
175°	2108	2103	2099	2112	2101	200
180°	2112	2112	2112	2112	2112	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1182.9	1182.9	1182.9	1182.9	1182.9
2.5°	1188.2	1182.9	1171.0	1181.8	1179.7
5°	1182.9	1177.5	1163.6	1173.2	1170.0
7.5°	1173.2	1166.8	1151.9	1156.1	1150.7
10°	1160.4	1152.9	1131.5	1128.2	1121.9
12.5°	1144.3	1134.7	1105.8	1099.4	1087.6
15°	1125.1	1113.2	1076.9	1056.6	1045.9
17.5°	1102.5	1085.5	1040.4	1017.0	999.8
20°	1076.9	1055.4	1001.9	975.3	951.6
22.5°	1049.1	1024.4	962.3	926.0	909.9
25°	1021.3	986.9	916.3	872.4	856.3
27.5°	988.1	951.6	873.5	823.2	798.5
30°	952.8	912.0	826.4	771.9	742.9
32.5°	918.4	869.2	781.5	717.2	690.4
35°	880.0	825.3	731.1	663.7	640.1
37.5°	842.5	783.5	684.0	610.1	583.5
40°	802.9	738.7	634.8	558.8	531.0
42.5°	762.2	693.7	585.6	506.3	479.6
45°	719.4	647.6	535.3	459.2	433.5
47.5°	678.7	602.7	487.1	411.0	387.5
50°	633.7	557.7	440.0	366.0	343.6
52.5°	589.8	509.5	395.1	324.4	304.0
55°	546.9	463.5	347.8	283.7	263.4
57.5°	503.1	417.5	306.2	246.2	229.1
60°	458.1	372.5	262.3	207.7	190.6
62.5°	414.3	328.7	224.8	173.4	164.9
65°	369.3	282.6	186.2	149.9	146.6
67.5°	326.6	239.7	149.9	131.7	128.4
70°	281.5	198.1	124.1	113.4	109.1
72.5°	238.7	159.4	103.8	95.3	93.1
75°	196.9	122.0	85.7	78.1	77.1
77.5°	155.2	86.6	67.4	63.2	61.0
80°	116.7	62.1	51.3	47.1	47.1
82.5°	81.3	41.8	35.3	33.2	33.2
85°	46.0	23.5	20.3	20.3	20.3
87.5°	17.2	8.5	8.5	7.5	7.5
90°	1.9	22.9	62.4	58.6	60.5
92.5°	39.5	53.5	55.4	57.3	57.3
95°	92.9	110.8	114.0	114.0	110.8
97.5°	154.7	171.2	178.3	178.3	178.3
100°	226.0	240.7	245.8	245.8	243.8
102.5°	301.2	312.0	319.0	320.9	319.0
105°	383.3	388.4	392.2	395.4	395.4
107.5°	464.8	472.4	472.4	473.8	464.8
110°	543.8	554.0	554.0	554.0	548.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	629.1	639.9	638.0	632.9	629.1
115°	713.1	723.3	720.2	718.3	713.1
117.5°	796.5	810.5	801.6	796.5	791.4
120°	880.5	894.6	880.5	880.5	874.8
122.5°	957.0	974.8	965.9	960.8	957.0
125°	1037.2	1053.1	1048.1	1042.3	1040.4
127.5°	1115.5	1135.3	1128.3	1120.7	1115.5
130°	1188.8	1211.7	1208.5	1204.7	1197.7
132.5°	1270.9	1288.8	1290.0	1281.1	1276.0
135°	1341.6	1361.3	1365.2	1363.2	1358.1
137.5°	1420.5	1436.4	1439.6	1438.3	1430.7
140°	1490.0	1505.9	1514.8	1514.8	1507.8
142.5°	1561.2	1577.2	1582.2	1584.1	1577.2
145°	1628.8	1641.5	1651.7	1653.6	1646.6
147.5°	1689.2	1705.2	1712.8	1716.0	1709.0
150°	1751.6	1762.4	1769.5	1775.2	1769.5
152.5°	1807.0	1817.8	1826.7	1833.8	1826.7
155°	1862.4	1867.5	1873.3	1882.1	1876.4
157.5°	1910.2	1914.0	1917.2	1929.9	1921.0
160°	1952.8	1956.7	1958.6	1969.3	1961.7
162.5°	1992.3	1992.3	1994.2	2006.3	1997.4
165°	2026.0	2024.1	2024.1	2036.9	2027.9
167.5°	2056.6	2050.9	2050.9	2063.6	2054.7
170°	2079.5	2074.5	2072.6	2085.3	2074.5
172.5°	2095.5	2090.3	2088.4	2101.2	2090.3
175°	2108.1	2103.1	2099.3	2112.0	2101.2
177.5°	2115.2	2110.1	2106.2	2117.1	2106.2
180°	2112.0	2112.0	2112.0	2112.0	2112.0

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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	8.01	8.70	9.13	9.81	11.35	3.97	4.66	5.09	5.77	7.31
	3H	9.66	10.27	10.79	11.39	12.95	5.13	5.74	6.26	6.86	8.42
	4H	10.25	10.83	11.39	11.95	13.51	5.56	6.14	6.70	7.26	8.83
	6H	10.64	11.18	11.79	12.30	13.88	5.86	6.39	7.01	7.52	9.09
	8H	10.76	11.27	11.91	12.41	13.97	5.94	6.44	7.09	7.58	9.15
	12H	10.81	11.29	11.96	12.42	14.01	5.97	6.45	7.12	7.58	9.17
4H	2H	8.01	8.59	9.15	9.71	11.27	4.54	5.12	5.68	6.24	7.80
	3H	9.80	10.28	10.95	11.43	13.01	5.85	6.34	7.01	7.48	9.06
	4H	10.47	10.92	11.63	12.05	13.65	6.38	6.82	7.53	7.96	9.56
	6H	10.96	11.34	12.12	12.50	14.08	6.77	7.15	7.93	8.31	9.90
	8H	11.12	11.48	12.28	12.63	14.23	6.89	7.24	8.05	8.39	9.99
	12H	11.20	11.52	12.37	12.68	14.29	6.94	7.26	8.11	8.42	10.03
8H	4H	10.42	10.78	11.58	11.93	13.53	6.64	6.99	7.80	8.14	9.74
	6H	10.96	11.25	12.14	12.45	14.05	7.13	7.42	8.31	8.61	10.21
	8H	11.16	11.42	12.35	12.59	14.21	7.30	7.56	8.49	8.73	10.35
	12H	11.28	11.51	12.47	12.68	14.33	7.40	7.62	8.59	8.79	10.45
12H	4H	10.37	10.69	11.54	11.85	13.46	6.63	6.95	7.81	8.12	9.72
	6H	10.94	11.19	12.12	12.36	13.98	7.17	7.42	8.35	8.60	10.21
	8H	11.14	11.36	12.32	12.53	14.18	7.36	7.58	8.55	8.75	10.40