

Signify Classified - Internal  
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: P644183

Luminaire Tested: CRQ4DIP-SR4F0-100D125U830-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644183  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-100D125U830-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

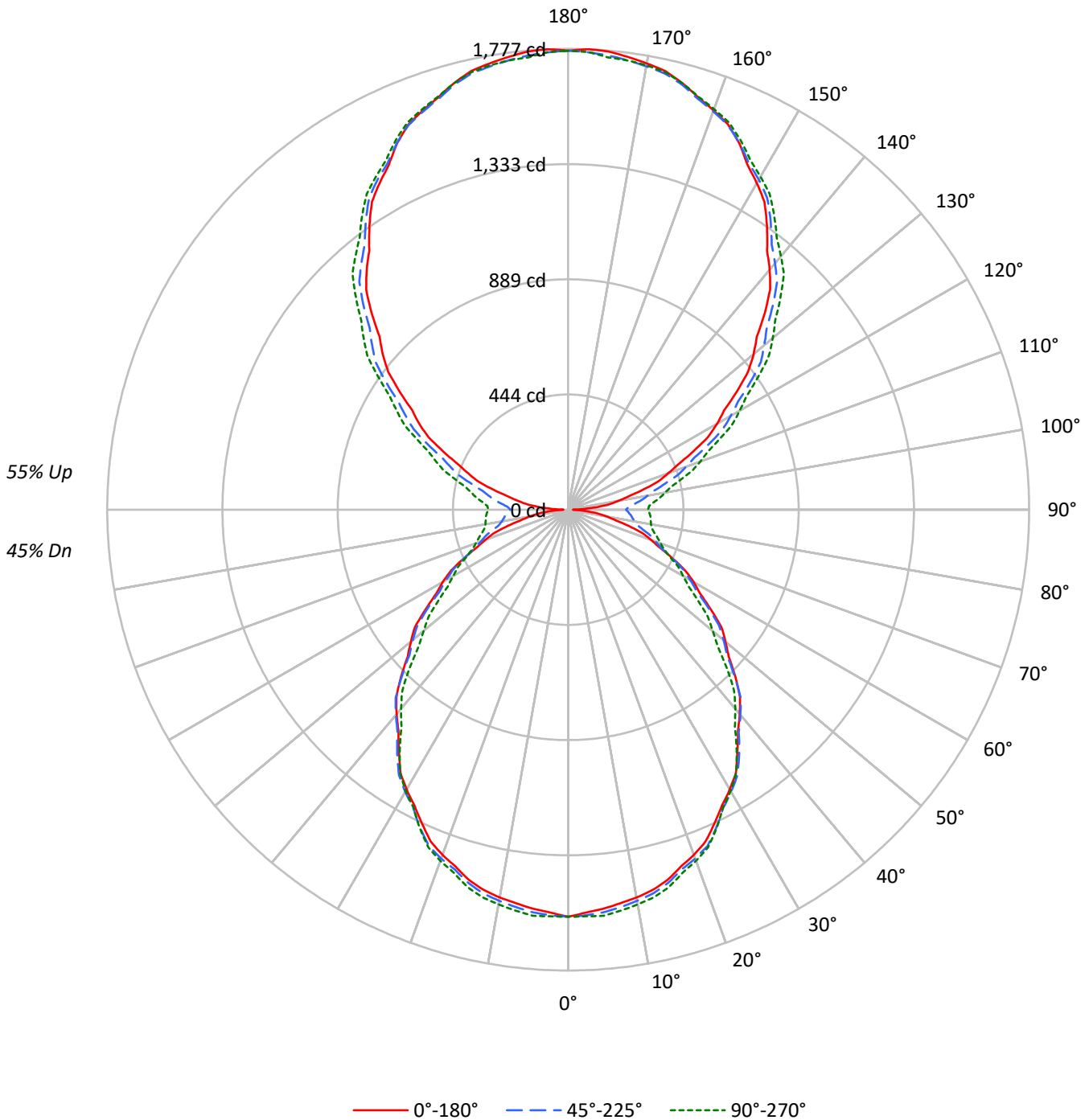
Lumens per Lamp: N/A  
Luminaire Lumens: 9273.0 lumens  
Efficiency: N/A  
Efficacy: 136.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
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	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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	52	52	52	45				
1	96	91	87	84	88	84	80	77	70	67	65	57	55	53	44	43	42	37				
2	87	80	73	68	80	73	68	63	61	57	53	49	47	44	39	37	35	30				
3	80	70	63	57	73	64	58	53	54	49	45	44	40	37	35	32	30	26				
4	73	62	54	48	66	57	50	45	48	42	38	39	35	32	31	28	26	22				
5	67	55	47	41	61	51	44	38	43	37	33	35	31	28	28	25	23	19				
6	62	49	41	36	56	46	38	33	38	33	29	32	27	24	25	22	20	17				
7	57	45	37	31	52	41	34	29	35	29	25	29	25	21	23	20	18	15				
8	53	41	33	27	48	38	31	26	32	26	22	26	22	19	21	18	16	13				
9	49	37	30	24	45	34	28	23	29	24	20	24	20	17	20	17	14	12				
10	46	34	27	22	42	31	25	21	27	22	18	22	18	16	18	15	13	11				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	25339	25339	25339
5°	24859	22373	21678
10°	24534	19929	18726
15°	24174	17848	16380
20°	23620	16012	14327
25°	22883	14279	12484
30°	22158	12655	10836
35°	21177	11152	9301
40°	20261	9733	7885
45°	19201	8368	6580
50°	18081	7123	5397
55°	16894	5985	4448
60°	15763	4945	3697
65°	14368	4062	3134
70°	13026	3346	2749
75°	11392	2864	2532
80°	9515	2581	2440
85°	6936	2515	2474

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 19201 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.2	1.6
10°-20°	420.6	4.5
20°-30°	621.1	6.7
30°-40°	714.9	7.7
40°-50°	693.9	7.5
50°-60°	585.7	6.3
60°-70°	442.4	4.8
70°-80°	314.9	3.4
80°-90°	238.8	2.6
90°-100°	259.7	2.8
100°-110°	403.1	4.3
110°-120°	589.8	6.4
120°-130°	761.7	8.2
130°-140°	861.1	9.3
140°-150°	850.8	9.2
150°-160°	719.6	7.8
160°-170°	479.1	5.2
170°-180°	167.6	1.8
0°-30°	1189.9	12.8
0°-40°	1904.8	20.5
0°-60°	3184.3	34.3
0°-90°	4180.5	45.1
90°-120°	1252.6	13.5
90°-150°	3726.2	40.2
90°-180°	5092.0	54.9
0°-180°	9273.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1569	1569	1569	1569	1569	
5°	1545	1573	1558	1561	1572	147
15°	1478	1504	1489	1494	1505	416
25°	1334	1360	1352	1346	1354	615
35°	1137	1160	1149	1133	1133	712
45°	911	925	906	878	864	702
55°	672	688	660	622	609	602
65°	443	456	442	436	434	441
75°	239	254	298	333	344	256
85°	73	132	242	302	319	78
90°	20	106	223	287	308	18
95°	107	143	255	318	331	107
105°	298	311	385	439	449	318
115°	532	553	598	634	643	529
125°	792	819	857	887	894	710
135°	1071	1095	1116	1144	1157	826
145°	1336	1352	1360	1370	1385	834
155°	1560	1569	1561	1563	1573	716
165°	1702	1710	1697	1691	1702	480
175°	1774	1781	1759	1751	1751	168
180°	1770	1770	1770	1770	1770	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1569.4	1569.4	1569.4	1569.4	1569.4
2.5°	1555.2	1577.7	1565.5	1567.6	1569.4
5°	1545.0	1573.1	1558.3	1560.7	1571.6
7.5°	1530.8	1558.3	1545.5	1546.6	1559.2
10°	1518.4	1544.4	1531.3	1534.1	1545.0
12.5°	1502.4	1529.6	1515.6	1519.9	1530.8
15°	1478.5	1503.8	1489.2	1494.2	1505.1
17.5°	1443.0	1468.2	1454.6	1456.6	1467.4
20°	1416.4	1439.9	1431.6	1430.0	1440.8
22.5°	1384.5	1409.7	1403.2	1396.3	1408.9
25°	1334.4	1359.7	1352.1	1345.7	1354.3
27.5°	1284.7	1307.4	1295.4	1286.7	1293.2
30°	1245.7	1268.9	1256.1	1245.9	1252.4
32.5°	1203.2	1227.8	1213.6	1201.5	1204.5
35°	1137.1	1160.0	1149.4	1132.7	1132.7
37.5°	1074.6	1093.2	1080.5	1059.9	1055.1
40°	1028.5	1048.9	1032.6	1008.4	1001.9
42.5°	980.6	1001.0	984.4	956.9	946.9
45°	911.0	925.2	906.3	877.5	864.5
47.5°	839.2	855.3	829.9	797.6	782.0
50°	791.3	807.7	781.4	744.4	727.0
52.5°	745.2	759.6	732.1	692.8	678.6
55°	671.6	687.6	659.9	621.6	609.4
57.5°	602.9	618.5	588.5	561.1	549.9
60°	558.6	572.4	543.9	520.7	511.1
62.5°	508.9	524.3	499.1	485.7	479.0
65°	443.3	456.5	442.2	435.5	433.9
67.5°	381.7	392.7	389.0	396.8	399.6
70°	339.1	350.2	357.8	374.0	378.2
72.5°	300.1	310.9	332.8	355.9	361.8
75°	239.4	254.1	298.3	333.2	343.6
77.5°	186.2	202.6	272.7	317.2	330.1
80°	150.7	176.4	259.7	309.5	323.9
82.5°	118.8	153.9	250.4	306.5	320.9
85°	73.1	132.4	242.2	302.1	318.7
87.5°	35.9	116.3	232.5	295.2	314.0
90°	19.8	106.2	222.6	287.1	307.6
92.5°	52.4	115.7	232.5	295.4	311.7
95°	106.7	143.1	255.1	317.9	331.1
97.5°	160.0	182.2	285.8	344.1	357.0
100°	197.6	213.6	310.3	366.8	378.4
102.5°	237.9	249.5	339.3	392.8	405.6
105°	298.4	311.1	385.0	439.2	449.0
107.5°	365.6	379.5	441.7	492.5	502.4
110°	410.4	429.0	483.5	529.6	540.9

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	460.0	478.6	527.1	569.6	581.0
115°	532.2	552.9	598.2	634.1	643.2
117.5°	607.7	630.3	671.4	704.7	713.5
120°	663.1	684.4	723.7	755.5	762.8
122.5°	712.7	736.7	776.3	808.1	815.4
125°	792.4	819.3	857.1	887.0	894.3
127.5°	874.2	900.8	935.6	966.0	975.5
130°	932.6	956.5	986.7	1018.6	1029.6
132.5°	986.2	1010.0	1037.6	1069.7	1082.2
135°	1071.0	1094.8	1116.0	1144.5	1157.4
137.5°	1152.5	1175.6	1192.0	1214.5	1230.7
140°	1208.1	1228.3	1240.1	1261.1	1275.8
142.5°	1259.2	1279.4	1288.2	1306.1	1320.8
145°	1335.9	1352.4	1360.3	1370.0	1384.7
147.5°	1407.7	1423.8	1427.2	1435.7	1444.9
150°	1454.2	1468.9	1469.3	1473.2	1482.4
152.5°	1497.8	1511.1	1506.9	1509.4	1520.0
155°	1559.5	1568.6	1561.3	1563.4	1572.6
157.5°	1608.3	1617.5	1606.1	1609.6	1617.0
160°	1638.4	1647.6	1634.6	1636.7	1644.0
162.5°	1666.9	1673.2	1661.7	1659.3	1669.6
165°	1702.3	1709.6	1696.6	1691.2	1702.3
167.5°	1732.3	1739.7	1722.5	1716.8	1727.8
170°	1747.4	1754.7	1736.1	1728.8	1739.8
172.5°	1760.9	1768.2	1748.1	1739.3	1747.4
175°	1773.7	1781.0	1758.6	1751.1	1751.1
177.5°	1777.4	1781.8	1765.4	1758.1	1766.9
180°	1769.9	1769.9	1769.9	1769.9	1769.9

(END OF REPORT)