

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: P644329

Luminaire Tested: CRQ4DIP-SR4F0-50D125U835-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644329  
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-SR4F0-50D125U835-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

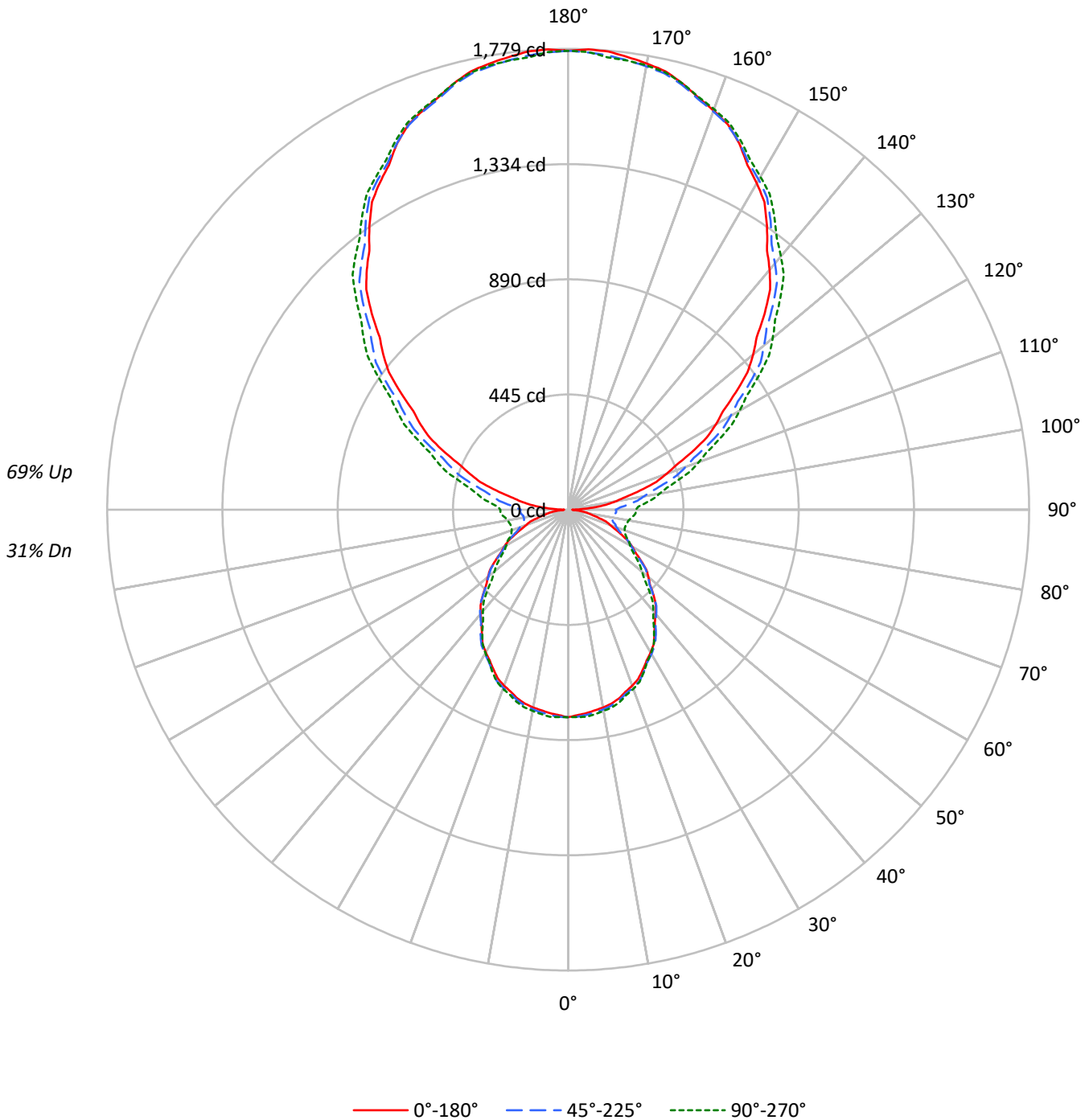
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7297.4 lumens  
Efficiency: N/A  
Efficacy: 139.0 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: Semi-Indirect  
  
Input Watts (W): 52.5  
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	0
RCR																		
0	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31
1	93	88	84	80	83	79	76	73	62	60	58	47	45	44	33	32	31	24
2	84	77	70	65	75	69	64	59	54	51	47	41	38	36	28	27	26	20
3	77	67	60	54	68	61	54	49	48	43	40	36	33	31	25	23	22	17
4	70	59	52	46	63	54	47	42	42	38	34	32	29	26	22	20	19	14
5	64	53	45	39	57	48	41	36	38	33	29	29	25	23	20	18	16	13
6	59	47	39	34	53	43	36	31	34	29	25	26	22	20	18	16	14	11
7	55	43	35	29	49	38	32	27	31	26	22	24	20	17	17	14	13	10
8	51	39	31	26	45	35	28	24	28	23	19	22	18	15	15	13	11	9
9	47	35	28	23	42	32	25	21	26	21	17	20	16	14	14	12	10	8
10	44	32	25	20	39	29	23	19	23	19	16	18	15	12	13	11	9	7

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

	0°	45°	90°
0°	12936	12936	12936
5°	12692	11423	11067
10°	12525	10186	9561
15°	12341	9123	8363
20°	12059	8185	7315
25°	11683	7290	6373
30°	11313	6479	5532
35°	10811	5721	4749
40°	10344	4978	4025
45°	9803	4280	3359
50°	9231	3662	2756
55°	8626	3072	2318
60°	8048	2559	1994
65°	7335	2159	1786
70°	6649	1855	1685
75°	5815	1719	1694
80°	4862	1729	1787
85°	3539	1896	1978

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9803 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.7	1.0
10°-20°	214.9	2.9
20°-30°	317.4	4.3
30°-40°	365.7	5.0
40°-50°	355.1	4.9
50°-60°	302.1	4.1
60°-70°	238.1	3.3
70°-80°	190.1	2.6
80°-90°	178.3	2.4
90°-100°	235.9	3.2
100°-110°	394.7	5.4
110°-120°	587.3	8.0
120°-130°	761.2	10.4
130°-140°	861.8	11.8
140°-150°	851.5	11.7
150°-160°	720.3	9.9
160°-170°	479.6	6.6
170°-180°	167.7	2.3
0°-30°	608.0	8.3
0°-40°	973.7	13.3
0°-60°	1630.9	22.3
0°-90°	2237.6	30.7
90°-120°	1217.9	16.7
90°-150°	3692.4	50.6
90°-180°	5060.0	69.3
0°-180°	7297.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	801	801	801	801	801	
5°	789	803	796	797	802	75
15°	755	770	761	763	768	212
25°	681	696	690	687	691	314
35°	580	595	590	578	578	364
45°	465	475	464	448	441	358
55°	343	355	339	320	318	307
65°	226	238	235	244	247	225
75°	122	137	179	217	230	131
85°	37	89	183	238	255	40
90°	17	85	184	242	261	14
95°	96	133	232	288	300	97
105°	288	307	380	430	438	307
115°	525	550	596	632	642	522
125°	789	818	857	888	895	707
135°	1072	1096	1117	1146	1158	826
145°	1337	1354	1362	1371	1386	835
155°	1561	1570	1563	1565	1574	717
165°	1704	1711	1698	1693	1704	480
175°	1775	1783	1760	1753	1753	168
180°	1772	1772	1772	1772	1772	

TEST NUMBER: P644329

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	801.2	801.2	801.2	801.2	801.2
2.5°	794.0	805.5	800.0	800.3	801.2
5°	788.8	803.2	795.6	796.8	802.3
7.5°	781.5	796.3	790.0	789.6	796.0
10°	775.2	788.5	782.7	783.2	788.8
12.5°	767.0	782.4	774.0	776.0	781.5
15°	754.8	769.6	761.2	762.9	768.4
17.5°	736.7	750.5	743.6	743.6	749.2
20°	723.1	736.0	731.8	730.0	735.6
22.5°	706.8	720.6	717.3	712.9	719.3
25°	681.3	696.0	690.3	687.0	691.4
27.5°	655.9	670.7	662.5	656.9	660.2
30°	636.0	649.6	643.1	636.1	639.4
32.5°	614.3	629.4	621.4	613.4	614.9
35°	580.5	594.9	589.6	578.3	578.3
37.5°	548.6	561.7	552.5	541.1	538.7
40°	525.1	539.1	528.1	514.8	511.5
42.5°	500.6	514.6	504.3	488.5	483.4
45°	465.1	475.1	463.6	448.0	441.3
47.5°	428.4	440.1	425.0	407.2	399.3
50°	404.0	415.1	401.7	380.0	371.2
52.5°	380.5	391.2	375.8	354.4	347.9
55°	342.9	354.7	338.7	320.2	317.6
57.5°	307.8	319.4	303.4	294.8	291.1
60°	285.2	295.9	281.4	277.9	275.7
62.5°	259.8	272.0	259.9	263.8	264.5
65°	226.3	238.5	235.0	243.6	247.3
67.5°	194.9	205.9	211.3	230.5	237.5
70°	173.1	184.2	198.3	223.3	231.8
72.5°	153.2	164.8	190.7	220.0	229.3
75°	122.2	136.9	179.0	217.3	229.8
77.5°	95.1	113.1	174.1	219.1	233.0
80°	77.0	102.7	174.0	221.8	237.2
82.5°	60.7	94.1	175.2	228.4	243.8
85°	37.3	89.2	182.6	238.3	254.8
87.5°	19.6	87.2	185.8	242.9	261.5
90°	16.6	85.0	183.7	241.7	261.2
92.5°	45.8	99.5	200.5	256.9	271.4
95°	95.9	133.4	232.5	287.7	299.9
97.5°	147.1	175.9	269.6	321.5	333.2
100°	184.7	208.2	297.5	348.6	358.1
102.5°	225.9	245.0	330.0	378.1	389.7
105°	287.8	306.9	379.9	429.7	437.5
107.5°	356.4	376.4	439.1	486.8	495.7
110°	402.1	426.0	481.8	525.7	536.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	451.7	475.6	525.4	567.5	577.8
115°	525.1	550.1	596.5	632.5	641.7
117.5°	602.0	627.5	670.0	704.4	713.3
120°	658.2	681.7	723.3	756.2	763.5
122.5°	707.9	734.9	775.9	808.8	816.2
125°	788.7	817.8	856.8	887.8	895.2
127.5°	872.0	899.4	935.4	966.8	976.4
130°	931.3	955.2	986.5	1019.5	1030.6
132.5°	986.6	1010.5	1038.3	1070.7	1083.2
135°	1071.9	1095.8	1117.1	1145.6	1158.4
137.5°	1153.5	1176.7	1193.0	1215.6	1231.8
140°	1209.2	1229.4	1241.2	1262.2	1276.9
142.5°	1260.4	1280.6	1289.3	1307.3	1322.0
145°	1337.1	1353.6	1361.5	1371.3	1386.0
147.5°	1408.9	1425.1	1428.5	1437.0	1446.2
150°	1455.6	1470.3	1470.6	1474.6	1483.8
152.5°	1499.2	1512.4	1508.2	1510.7	1521.4
155°	1560.9	1570.1	1562.8	1564.8	1574.0
157.5°	1609.8	1619.0	1607.5	1611.1	1618.4
160°	1639.9	1649.0	1636.1	1638.1	1645.5
162.5°	1668.4	1674.7	1663.2	1660.8	1671.1
165°	1703.8	1711.1	1698.2	1692.8	1703.8
167.5°	1733.9	1741.2	1724.1	1718.3	1729.4
170°	1748.9	1756.3	1737.6	1730.4	1741.4
172.5°	1762.5	1769.8	1749.7	1740.8	1748.9
175°	1775.3	1782.6	1760.2	1752.7	1752.7
177.5°	1779.0	1783.4	1767.0	1759.7	1768.5
180°	1771.5	1771.5	1771.5	1771.5	1771.5

(END OF REPORT)