

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: P644472

Luminaire Tested: CRQ4DP-SR4F0-50D835-FLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644472  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DP-SR4F0-50D835-FLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
DIRECT ONLY  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

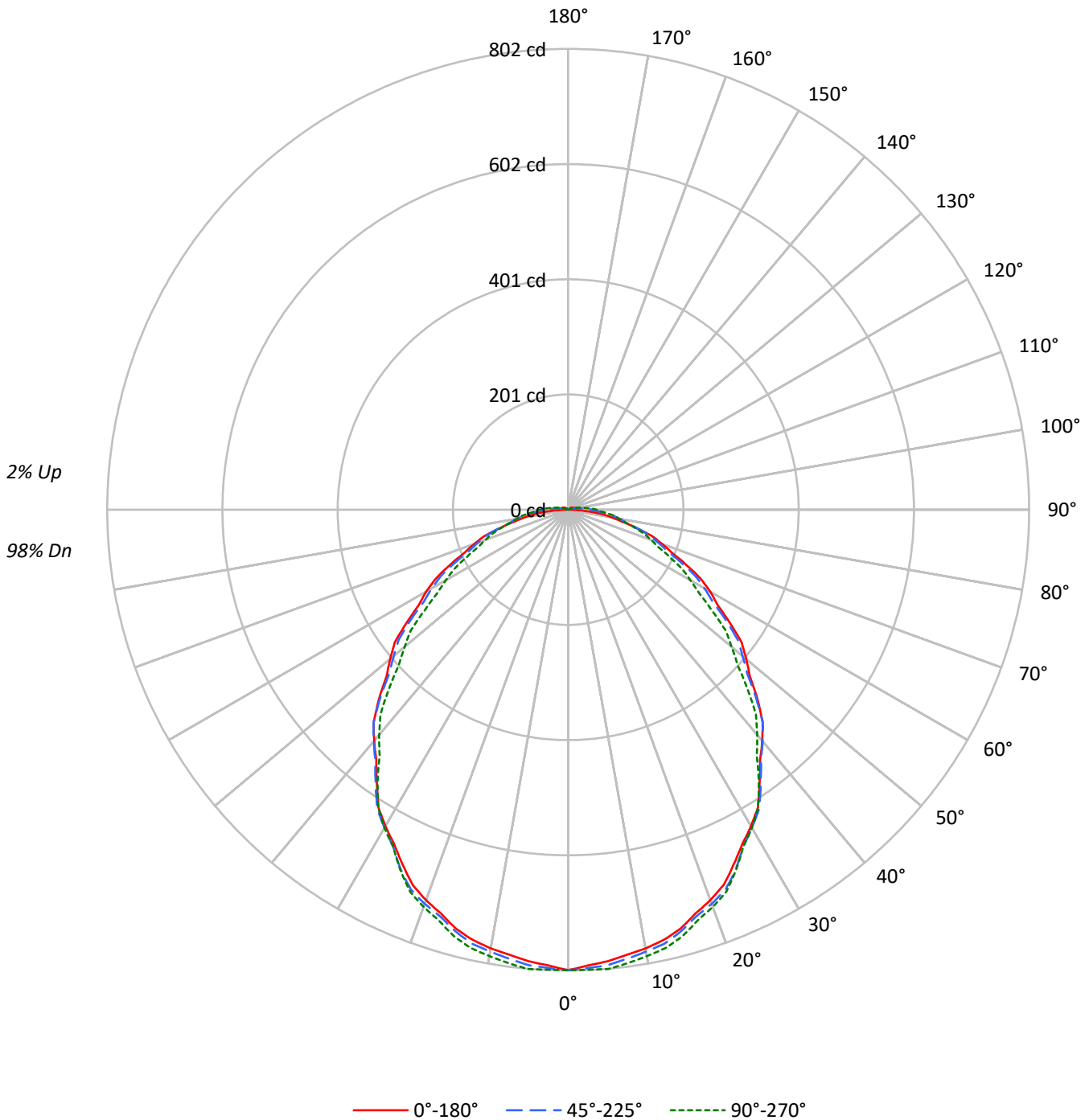
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2065.6 lumens  
Efficiency: N/A  
Efficacy: 144.4 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: 0.02')  
CIE Type: Direct

Input Watts (W): 14.3  
Input Voltage (V): 120  
Input Current (Ain): 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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	100	100	100	98	
1	108	103	99	95	105	101	97	93	96	93	90	92	89	87	88	86	84	88	86	84	82	
2	99	91	84	78	96	88	82	77	85	79	75	81	77	73	78	74	71	78	74	71	69	
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	69	65	61	69	65	61	58	
4	83	71	62	56	80	70	62	55	67	60	54	64	58	53	62	57	53	62	57	53	50	
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	56	50	46	56	50	46	44	
6	71	58	49	43	69	57	48	42	55	47	42	53	46	41	51	45	41	51	45	41	39	
7	66	52	44	38	64	51	43	38	50	42	37	48	42	37	47	41	36	47	41	36	34	
8	61	48	40	34	60	47	39	34	46	38	33	44	38	33	43	37	33	43	37	33	31	
9	57	44	36	31	56	43	36	30	42	35	30	41	35	30	40	34	30	40	34	30	28	
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	37	31	27	25	

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

	0°	45°	90°
0°	12936	12936	12936
5°	12778	12771	12835
10°	12695	12557	12599
15°	12596	12327	12348
20°	12396	12056	11985
25°	12102	11695	11512
30°	11815	11206	10971
35°	11392	10682	10315
40°	11010	10150	9576
45°	10554	9493	8762
50°	10073	8792	7910
55°	9567	8145	7057
60°	9111	7424	6295
65°	8531	6675	5625
70°	8034	6026	5108
75°	7449	5499	4751
80°	6914	5110	4547
85°	6449	5092	4559

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10554 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.6	3.7
10°-20°	214.6	10.4
20°-30°	316.8	15.3
30°-40°	364.2	17.6
40°-50°	353.3	17.1
50°-60°	295.8	14.3
60°-70°	213.1	10.3
70°-80°	130.2	6.3
80°-90°	63.3	3.1
90°-100°	25.0	1.2
100°-110°	9.1	0.4
110°-120°	3.2	0.2
120°-130°	1.3	0.1
130°-140°	0.2	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	607.0	29.4
0°-40°	971.2	47.0
0°-60°	1620.3	78.4
0°-90°	2026.8	98.1
90°-120°	37.3	1.8
90°-150°	38.7	1.9
90°-180°	39.0	1.9
0°-180°	2065.6	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	766	759	763	768	212
25°	681	692	690	687	691	314
35°	580	589	584	578	578	364
45°	465	470	462	448	441	358
55°	343	347	335	314	304	307
65°	226	227	216	200	195	225
75°	122	122	124	121	119	131
85°	37	45	62	67	67	39
90°	3	22	41	48	49	4
95°	11	10	24	32	33	10
105°	11	5	6	10	12	12
115°	8	4	2	2	2	8
125°	4	2	1	0	0	4
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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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	798.5	800.3	801.2
5°	788.8	803.2	795.6	796.8	802.3
7.5°	781.5	794.8	788.1	789.6	796.0
10°	775.2	788.5	780.8	783.2	788.8
12.5°	767.0	779.4	773.6	776.0	781.5
15°	754.8	765.9	759.3	762.9	768.4
17.5°	736.7	748.7	741.7	743.6	749.2
20°	723.1	734.2	729.9	730.0	735.6
22.5°	706.8	718.8	715.4	712.9	719.3
25°	681.3	692.3	690.3	687.0	691.4
27.5°	655.9	664.1	660.2	656.9	660.2
30°	636.0	646.0	639.4	636.1	639.4
32.5°	614.3	624.2	617.7	613.4	614.9
35°	580.5	589.4	583.9	578.3	578.3
37.5°	548.6	554.4	550.7	541.1	538.7
40°	525.1	531.7	526.2	514.8	511.5
42.5°	500.6	507.3	500.9	488.5	483.4
45°	465.1	469.5	461.7	448.0	441.3
47.5°	428.4	433.1	422.3	407.2	399.3
50°	404.0	409.5	396.1	380.0	371.2
52.5°	380.5	384.2	371.6	352.9	344.9
55°	342.9	347.3	335.0	314.4	304.4
57.5°	307.8	312.0	297.4	277.8	270.0
60°	285.2	288.5	273.9	253.3	245.6
62.5°	259.8	263.1	249.4	231.6	223.8
65°	226.3	227.4	216.1	200.2	194.6
67.5°	194.9	194.9	185.4	173.5	169.1
70°	173.1	173.1	166.4	157.2	152.8
72.5°	153.2	152.3	148.2	141.8	138.3
75°	122.2	122.2	124.5	121.0	118.8
77.5°	95.1	93.3	103.0	102.5	101.4
80°	77.0	77.0	89.4	91.6	90.5
82.5°	60.7	62.4	78.5	81.7	80.6
85°	37.3	45.1	62.2	66.8	66.8
87.5°	17.0	30.5	48.9	54.8	55.0
90°	3.4	22.2	40.7	47.6	48.7
92.5°	7.0	17.0	33.5	40.3	42.3
95°	11.3	10.2	23.8	31.7	32.8
97.5°	13.6	6.7	17.2	23.8	25.1
100°	13.6	5.8	13.6	19.3	21.5
102.5°	12.7	4.9	10.0	15.6	17.0
105°	11.3	4.7	5.7	10.2	12.4
107.5°	10.0	3.5	3.2	6.4	7.5
110°	9.1	3.5	2.3	4.6	5.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	9.1	3.5	2.3	2.7	3.8
115°	7.9	3.5	2.3	2.3	2.3
117.5°	6.6	3.5	2.0	0.9	0.9
120°	5.7	3.4	1.1	0.0	0.0
122.5°	5.7	2.6	1.1	0.0	0.0
125°	4.5	2.3	1.1	0.0	0.0
127.5°	3.2	2.3	1.1	0.0	0.0
130°	2.3	2.3	1.1	0.0	0.0
132.5°	0.5	0.5	0.2	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)