

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: P644474

Luminaire Tested: CRQ4DP-SR4F0-50D930-FLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644474  
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-SR4F0-50D930-FLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
DIRECT ONLY  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

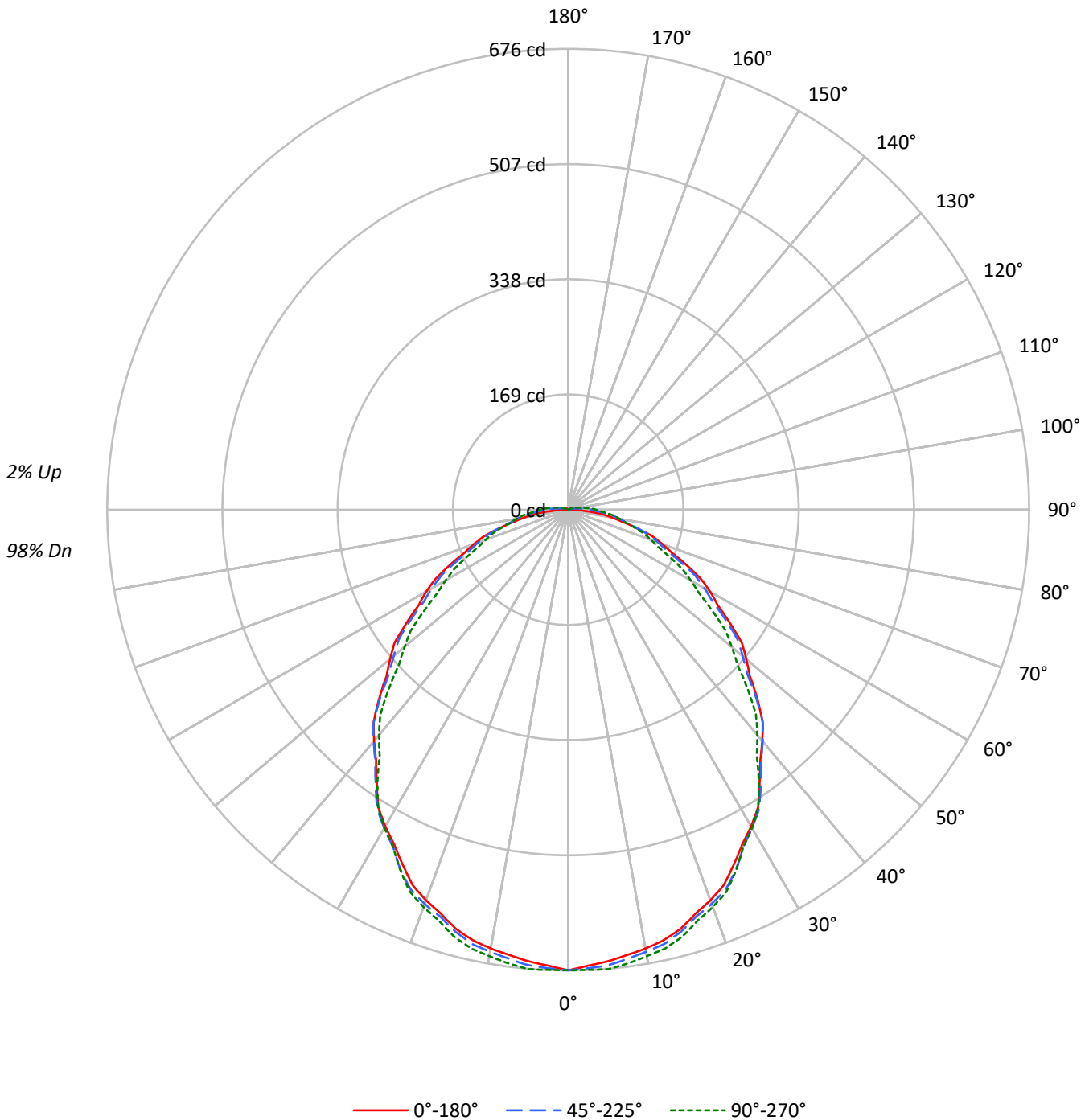
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1741.7 lumens  
Efficiency: N/A  
Efficacy: 121.8 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	0
RCR																		
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	108	103	99	95	105	101	97	93	96	93	90	92	89	87	88	86	84	82
2	99	91	84	78	96	88	82	77	85	79	75	81	77	73	78	74	71	69
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	69	65	61	58
4	83	71	62	56	80	70	62	55	67	60	54	64	58	53	62	57	53	50
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	56	50	46	44
6	71	58	49	43	69	57	48	42	55	47	42	53	46	41	51	45	41	39
7	66	52	44	38	64	51	43	38	50	42	37	48	42	37	47	41	36	34
8	61	48	40	34	60	47	39	34	46	38	33	44	38	33	43	37	33	31
9	57	44	36	31	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25

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

	0°	45°	90°
0°	10908	10908	10908
5°	10774	10768	10822
10°	10704	10588	10623
15°	10622	10395	10411
20°	10452	10167	10105
25°	10203	9862	9707
30°	9963	9448	9250
35°	9606	9008	8697
40°	9284	8558	8074
45°	8900	8005	7388
50°	8495	7413	6670
55°	8066	6866	5951
60°	7683	6258	5308
65°	7193	5631	4743
70°	6776	5081	4306
75°	6285	4638	4007
80°	5828	4310	3833
85°	5446	4298	3842

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8900 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.8	3.7
10°-20°	180.9	10.4
20°-30°	267.1	15.3
30°-40°	307.1	17.6
40°-50°	297.9	17.1
50°-60°	249.4	14.3
60°-70°	179.7	10.3
70°-80°	109.8	6.3
80°-90°	53.3	3.1
90°-100°	21.1	1.2
100°-110°	7.7	0.4
110°-120°	2.7	0.2
120°-130°	1.1	0.1
130°-140°	0.1	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°	511.8	29.4
0°-40°	818.9	47.0
0°-60°	1366.2	78.4
0°-90°	1709.0	98.1
90°-120°	31.4	1.8
90°-150°	32.7	1.9
90°-180°	33.0	1.9
0°-180°	1741.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	676	676	676	676	676	
5°	665	677	671	672	676	63
15°	636	646	640	643	648	179
25°	574	584	582	579	583	265
35°	490	497	492	488	488	307
45°	392	396	389	378	372	302
55°	289	293	282	265	257	259
65°	191	192	182	169	164	190
75°	103	103	105	102	100	110
85°	32	38	52	56	56	33
90°	3	19	34	40	41	4
95°	10	9	20	27	28	8
105°	10	4	5	9	10	10
115°	7	3	2	2	2	6
125°	4	2	1	0	0	3
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°	675.6	675.6	675.6	675.6	675.6
2.5°	669.5	679.2	673.3	674.8	675.6
5°	665.1	677.2	670.8	671.9	676.5
7.5°	659.0	670.2	664.5	665.8	671.2
10°	653.6	664.8	658.4	660.4	665.1
12.5°	646.8	657.2	652.3	654.3	659.0
15°	636.5	645.8	640.3	643.2	647.9
17.5°	621.2	631.3	625.4	627.0	631.7
20°	609.7	619.1	615.5	615.6	620.2
22.5°	596.0	606.1	603.2	601.1	606.5
25°	574.4	583.8	582.1	579.3	583.0
27.5°	553.1	560.0	556.7	553.9	556.7
30°	536.3	544.7	539.1	536.3	539.1
32.5°	517.9	526.3	520.8	517.2	518.5
35°	489.5	497.0	492.4	487.6	487.6
37.5°	462.6	467.5	464.3	456.3	454.2
40°	442.8	448.3	443.7	434.1	431.3
42.5°	422.1	427.7	422.3	411.9	407.6
45°	392.2	395.9	389.3	377.7	372.1
47.5°	361.3	365.2	356.1	343.4	336.6
50°	340.7	345.3	334.0	320.4	313.0
52.5°	320.8	324.0	313.4	297.6	290.8
55°	289.1	292.9	282.4	265.1	256.7
57.5°	259.5	263.1	250.8	234.2	227.7
60°	240.5	243.3	230.9	213.6	207.1
62.5°	219.1	221.9	210.3	195.3	188.7
65°	190.8	191.8	182.3	168.8	164.1
67.5°	164.3	164.3	156.3	146.3	142.6
70°	146.0	146.0	140.3	132.5	128.8
72.5°	129.2	128.5	125.0	119.6	116.6
75°	103.1	103.1	105.0	102.1	100.2
77.5°	80.2	78.7	86.8	86.4	85.5
80°	64.9	64.9	75.4	77.3	76.3
82.5°	51.1	52.6	66.2	68.9	67.9
85°	31.5	38.0	52.5	56.3	56.3
87.5°	14.3	25.7	41.2	46.2	46.4
90°	2.9	18.7	34.4	40.1	41.0
92.5°	5.9	14.3	28.2	34.0	35.7
95°	9.5	8.6	20.0	26.7	27.7
97.5°	11.5	5.7	14.5	20.1	21.2
100°	11.5	4.9	11.5	16.3	18.1
102.5°	10.7	4.2	8.4	13.2	14.3
105°	9.5	3.9	4.8	8.6	10.5
107.5°	8.4	3.0	2.7	5.4	6.3
110°	7.6	3.0	1.9	3.8	4.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	7.6	3.0	1.9	2.3	3.2
115°	6.7	2.9	1.9	1.9	1.9
117.5°	5.5	2.9	1.7	0.8	0.8
120°	4.8	2.9	1.0	0.0	0.0
122.5°	4.8	2.2	1.0	0.0	0.0
125°	3.8	2.0	1.0	0.0	0.0
127.5°	2.7	1.9	1.0	0.0	0.0
130°	1.9	1.9	1.0	0.0	0.0
132.5°	0.4	0.4	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)