

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: P644386

Luminaire Tested: CRQ4DIP-SR4F0-50D75U940-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644386  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-50D75U940-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

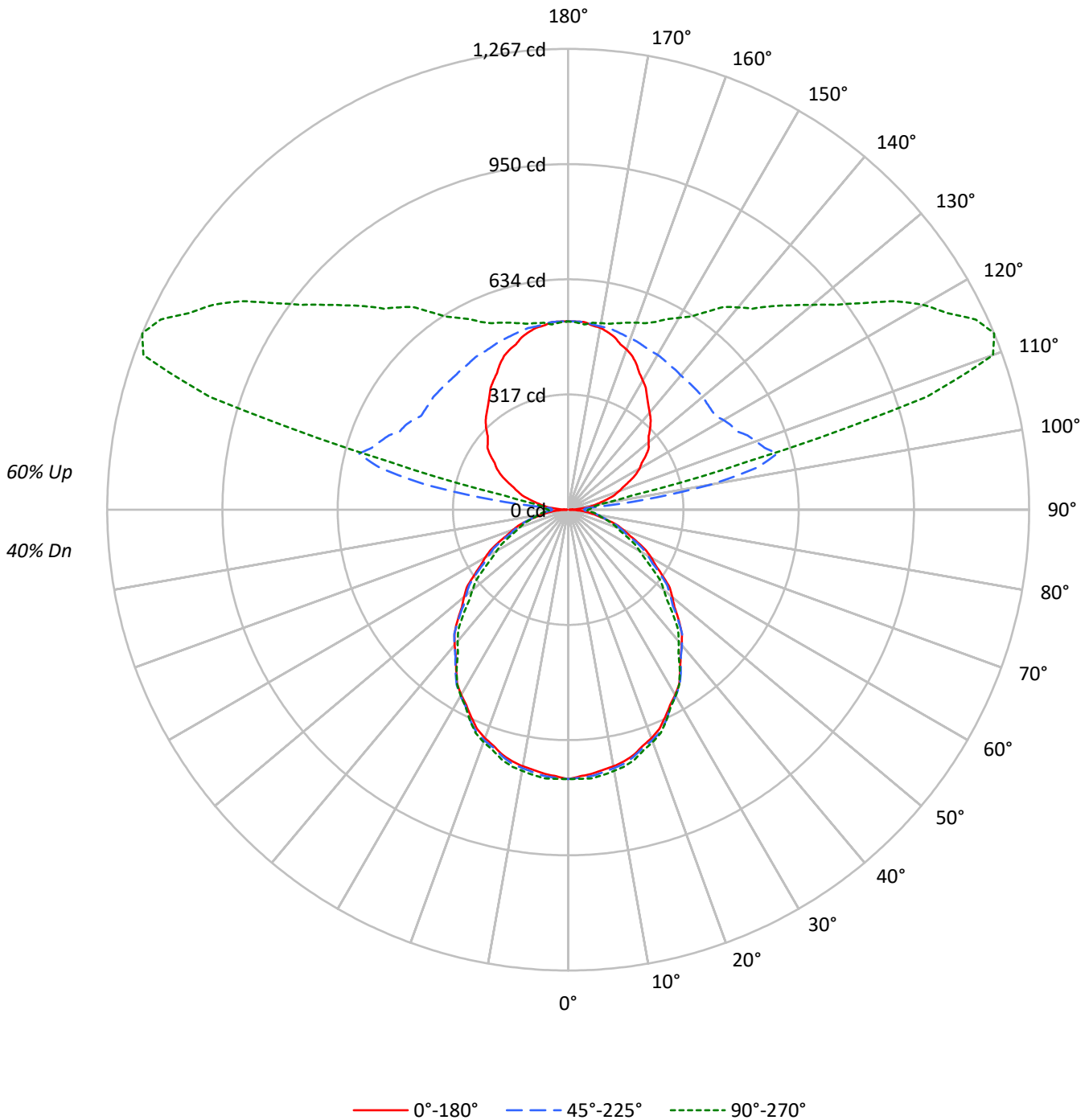
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4691.6 lumens  
Efficiency: N/A  
Efficacy: 133.7 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): 35.1  
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47
1	95	91	87	84	87	83	80	77	68	66	63	54	52	51	41	40	39
2	87	80	73	68	79	73	67	63	59	56	53	47	45	43	36	35	33
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28
4	73	62	54	48	66	57	50	45	47	42	38	37	34	31	29	26	24
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	23	21
6	61	49	41	36	56	45	38	33	38	32	28	30	27	24	24	21	19
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17
8	53	40	33	28	48	37	30	26	31	26	22	25	21	19	20	17	15
9	49	37	30	25	44	34	27	23	28	23	20	23	19	17	18	16	14
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12

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

	0°	45°	90°
0°	11956	11956	11956
5°	11730	10555	10228
10°	11575	9391	8836
15°	11406	8411	7728
20°	11145	7545	6760
25°	10797	6738	5890
30°	10456	5953	5113
35°	9992	5236	4388
40°	9560	4584	3720
45°	9059	3940	3105
50°	8532	3336	2546
55°	7972	2808	2053
60°	7438	2301	1641
65°	6781	1835	1299
70°	6146	1438	1026
75°	5377	1104	809
80°	4489	821	631
85°	3273	597	479

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9059 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.9	1.5
10°-20°	198.3	4.2
20°-30°	292.8	6.2
30°-40°	336.6	7.2
40°-50°	326.5	7.0
50°-60°	273.3	5.8
60°-70°	196.9	4.2
70°-80°	120.3	2.6
80°-90°	59.6	1.3
90°-100°	86.8	1.9
100°-110°	462.0	9.8
110°-120°	618.8	13.2
120°-130°	502.5	10.7
130°-140°	403.3	8.6
140°-150°	317.8	6.8
150°-160°	232.4	5.0
160°-170°	144.4	3.1
170°-180°	49.2	1.0
0°-30°	561.0	12.0
0°-40°	897.6	19.1
0°-60°	1497.4	31.9
0°-90°	1874.3	40.0
90°-120°	1167.6	24.9
90°-150°	2391.3	51.0
90°-180°	2817.0	60.0
0°-180°	4691.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	740	740	740	740	740	
5°	729	742	735	736	742	69
15°	698	708	702	705	710	196
25°	630	640	638	635	639	290
35°	536	545	540	534	534	336
45°	430	434	427	414	408	331
55°	317	321	310	290	281	284
65°	209	210	200	185	180	208
75°	113	113	115	112	110	121
85°	34	42	58	62	62	36
90°	3	24	44	54	55	5
95°	36	58	48	59	66	38
105°	111	159	595	762	510	118
115°	186	221	510	1058	1236	185
125°	262	294	480	837	990	232
135°	319	354	482	689	791	246
145°	378	410	485	601	664	237
155°	443	459	495	544	570	203
165°	492	498	508	521	531	138
175°	518	521	518	514	511	49
180°	518	518	518	518	518	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	740.5	740.5	740.5	740.5	740.5
2.5°	733.8	744.4	737.9	739.6	740.5
5°	729.0	742.2	735.2	736.4	741.5
7.5°	722.3	734.5	728.3	729.7	735.6
10°	716.4	728.7	721.6	723.8	729.0
12.5°	708.9	720.3	714.9	717.1	722.3
15°	697.6	707.8	701.8	705.0	710.1
17.5°	680.8	691.9	685.4	687.2	692.4
20°	668.3	678.5	674.6	674.7	679.8
22.5°	653.2	664.3	661.2	658.8	664.7
25°	629.6	639.8	638.0	634.9	639.0
27.5°	606.2	613.7	610.1	607.1	610.1
30°	587.8	597.0	590.9	587.8	590.9
32.5°	567.7	576.9	570.8	566.9	568.3
35°	536.5	544.7	539.7	534.4	534.4
37.5°	507.0	512.3	508.9	500.1	497.8
40°	485.3	491.4	486.3	475.8	472.7
42.5°	462.7	468.8	462.9	451.5	446.8
45°	429.8	433.9	426.7	414.0	407.9
47.5°	396.0	400.3	390.3	376.3	369.0
50°	373.4	378.5	366.0	351.2	343.0
52.5°	351.6	355.1	343.5	326.1	318.8
55°	316.9	321.0	309.6	290.5	281.3
57.5°	284.5	288.4	274.8	256.7	249.5
60°	263.6	266.6	253.1	234.1	226.9
62.5°	240.1	243.2	230.5	214.0	206.9
65°	209.2	210.2	199.8	185.0	179.9
67.5°	180.1	180.1	171.3	160.3	156.2
70°	160.0	160.0	153.7	145.3	141.2
72.5°	141.6	140.8	137.0	131.1	127.8
75°	113.0	113.0	115.0	111.9	109.8
77.5°	87.9	86.2	95.2	94.7	93.7
80°	71.1	71.1	82.6	84.7	83.7
82.5°	56.1	57.7	72.6	75.5	74.5
85°	34.5	41.7	57.5	61.7	61.7
87.5°	15.7	28.8	46.5	52.6	52.8
90°	3.1	23.7	44.2	53.7	54.7
92.5°	14.3	26.7	45.3	57.5	61.9
95°	36.5	57.8	48.0	58.8	66.2
97.5°	58.8	98.9	207.4	78.5	72.1
100°	74.4	121.4	396.8	130.9	94.8
102.5°	89.2	138.7	528.9	312.9	179.2
105°	111.4	159.4	594.7	762.4	509.8
107.5°	133.6	168.4	565.7	1101.8	1033.4
110°	148.4	181.5	549.2	1155.7	1242.7

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	164.0	197.1	533.6	1121.5	1267.1
115°	186.4	220.6	510.1	1058.0	1236.3
117.5°	209.3	244.0	504.0	988.5	1171.9
120°	226.7	259.7	492.8	935.7	1126.8
122.5°	239.7	274.4	479.8	891.1	1066.8
125°	261.5	294.4	479.8	837.2	990.0
127.5°	279.1	313.9	480.4	774.6	925.5
130°	288.7	326.9	483.0	732.7	876.0
132.5°	300.0	338.2	482.2	713.9	831.7
135°	319.1	354.2	482.0	689.4	791.3
137.5°	335.4	373.0	482.0	662.4	749.7
140°	348.5	383.5	482.0	646.6	726.2
142.5°	361.5	394.0	484.6	628.3	702.8
145°	377.8	409.6	485.2	600.7	664.3
147.5°	397.3	425.3	489.1	580.8	629.8
150°	410.3	435.8	491.7	567.6	609.0
152.5°	423.4	446.3	491.7	557.0	590.7
155°	442.9	458.8	495.0	544.4	569.9
157.5°	458.5	473.8	498.9	536.4	554.9
160°	468.9	481.7	501.5	531.2	547.1
162.5°	476.8	489.5	504.1	528.5	539.3
165°	491.7	498.1	508.0	521.3	530.8
167.5°	500.2	505.9	511.3	517.9	523.7
170°	508.0	511.2	511.3	517.9	521.0
172.5°	510.6	516.4	513.9	515.3	518.4
175°	517.8	521.0	517.8	514.5	511.3
177.5°	517.8	520.3	517.8	517.7	515.2
180°	517.8	517.8	517.8	517.8	517.8

(END OF REPORT)