

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: P644380

Luminaire Tested: CRQ4DIP-SR4F0-50D75U840-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644380  
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-SR4F0-50D75U840-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, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

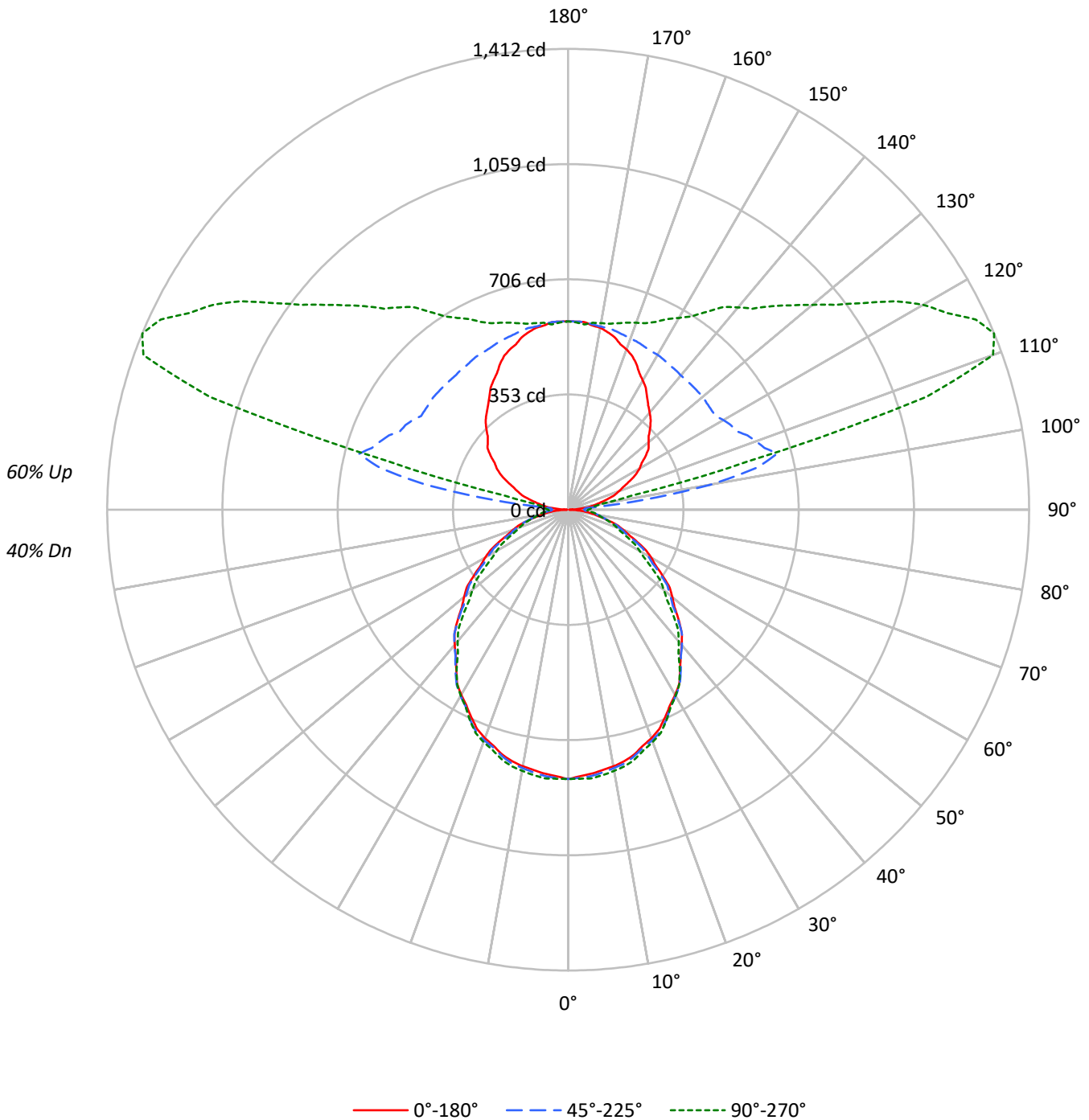
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5227.9 lumens  
Efficiency: N/A  
Efficacy: 148.9 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 (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
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°	13322	13322	13322
5°	13070	11763	11398
10°	12899	10465	9846
15°	12709	9372	8612
20°	12419	8408	7532
25°	12031	7508	6564
30°	11651	6634	5698
35°	11133	5834	4890
40°	10651	5108	4146
45°	10096	4390	3459
50°	9505	3718	2838
55°	8882	3129	2288
60°	8288	2564	1829
65°	7555	2045	1448
70°	6849	1602	1143
75°	5991	1231	902
80°	5001	915	702
85°	3653	666	534

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10096 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.9	1.5
10°-20°	221.0	4.2
20°-30°	326.2	6.2
30°-40°	375.1	7.2
40°-50°	363.8	7.0
50°-60°	304.6	5.8
60°-70°	219.4	4.2
70°-80°	134.1	2.6
80°-90°	66.4	1.3
90°-100°	96.7	1.9
100°-110°	514.8	9.8
110°-120°	689.6	13.2
120°-130°	559.9	10.7
130°-140°	449.4	8.6
140°-150°	354.2	6.8
150°-160°	259.0	5.0
160°-170°	160.9	3.1
170°-180°	54.9	1.0
0°-30°	625.1	12.0
0°-40°	1000.2	19.1
0°-60°	1668.6	31.9
0°-90°	2088.6	40.0
90°-120°	1301.1	24.9
90°-150°	2664.6	51.0
90°-180°	3139.0	60.0
0°-180°	5227.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	825	825	825	825	825	
5°	812	827	819	821	826	77
15°	777	789	782	786	791	219
25°	702	713	711	708	712	323
35°	598	607	601	596	596	374
45°	479	484	476	461	454	369
55°	353	358	345	324	314	317
65°	233	234	223	206	200	232
75°	126	126	128	125	122	135
85°	38	46	64	69	69	41
90°	4	26	49	60	61	6
95°	41	64	54	66	74	42
105°	124	178	663	850	568	131
115°	208	246	568	1179	1378	206
125°	291	328	535	933	1103	259
135°	356	395	537	768	882	274
145°	421	456	541	669	740	264
155°	494	511	552	607	635	227
165°	548	555	566	581	592	154
175°	577	580	577	573	570	55
180°	577	577	577	577	577	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	825.1	825.1	825.1	825.1	825.1
2.5°	817.6	829.5	822.3	824.2	825.1
5°	812.3	827.1	819.3	820.6	826.3
7.5°	804.8	818.5	811.6	813.1	819.7
10°	798.3	812.0	804.1	806.6	812.3
12.5°	789.9	802.7	796.7	799.1	804.8
15°	777.3	788.7	782.0	785.6	791.3
17.5°	758.7	771.0	763.8	765.8	771.5
20°	744.7	756.1	751.7	751.8	757.5
22.5°	727.9	740.2	736.8	734.1	740.7
25°	701.6	713.0	710.9	707.5	712.1
27.5°	675.5	683.9	679.9	676.5	679.9
30°	655.0	665.2	658.5	655.0	658.5
32.5°	632.6	642.8	636.1	631.7	633.3
35°	597.8	607.0	601.3	595.5	595.5
37.5°	565.0	570.9	567.1	557.2	554.7
40°	540.7	547.6	541.9	530.2	526.8
42.5°	515.6	522.4	515.8	503.1	497.9
45°	479.0	483.5	475.5	461.3	454.5
47.5°	441.2	446.0	434.9	419.4	411.2
50°	416.0	421.7	407.9	391.4	382.3
52.5°	391.8	395.7	382.7	363.4	355.2
55°	353.1	357.7	345.0	323.7	313.5
57.5°	317.0	321.3	306.3	286.0	278.1
60°	293.7	297.1	282.0	260.9	252.9
62.5°	267.6	271.0	256.9	238.5	230.5
65°	233.1	234.2	222.6	206.1	200.4
67.5°	200.7	200.7	190.9	178.7	174.1
70°	178.3	178.3	171.3	161.9	157.3
72.5°	157.8	156.9	152.7	146.1	142.4
75°	125.9	125.9	128.2	124.6	122.4
77.5°	97.9	96.1	106.1	105.6	104.4
80°	79.2	79.2	92.1	94.4	93.2
82.5°	62.5	64.3	80.9	84.1	83.0
85°	38.5	46.4	64.1	68.8	68.8
87.5°	17.5	32.1	51.8	58.6	58.8
90°	3.5	26.4	49.2	59.9	61.0
92.5°	15.9	29.7	50.5	64.1	69.0
95°	40.7	64.4	53.5	65.5	73.7
97.5°	65.5	110.3	231.1	87.5	80.3
100°	82.9	135.3	442.2	145.9	105.6
102.5°	99.4	154.6	589.4	348.7	199.6
105°	124.1	177.6	662.6	849.6	568.0
107.5°	148.9	187.7	630.3	1227.7	1151.5
110°	165.4	202.2	612.0	1287.8	1384.8

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	182.8	219.7	594.6	1249.7	1411.9
115°	207.7	245.8	568.4	1179.0	1377.7
117.5°	233.2	271.9	561.7	1101.5	1305.9
120°	252.6	289.3	549.1	1042.7	1255.6
122.5°	267.1	305.8	534.6	992.9	1188.8
125°	291.3	328.1	534.6	932.8	1103.2
127.5°	311.0	349.8	535.3	863.1	1031.3
130°	321.7	364.2	538.2	816.5	976.2
132.5°	334.3	376.9	537.3	795.5	926.8
135°	355.6	394.7	537.1	768.3	881.8
137.5°	373.8	415.6	537.1	738.1	835.4
140°	388.3	427.3	537.1	720.5	809.2
142.5°	402.8	439.0	540.0	700.1	783.1
145°	420.9	456.4	540.7	669.3	740.3
147.5°	442.7	473.9	545.0	647.2	701.8
150°	457.2	485.6	548.0	632.5	678.6
152.5°	471.7	497.3	548.0	620.7	658.3
155°	493.5	511.3	551.6	606.7	635.0
157.5°	510.9	528.0	555.9	597.8	618.3
160°	522.5	536.7	558.8	591.9	609.6
162.5°	531.3	545.5	561.7	588.9	600.9
165°	548.0	555.0	566.1	580.9	591.5
167.5°	557.4	563.8	569.7	577.1	583.5
170°	566.1	569.6	569.7	577.1	580.6
172.5°	569.0	575.4	572.6	574.2	577.7
175°	577.0	580.5	577.0	573.3	569.7
177.5°	577.0	579.8	577.0	576.9	574.1
180°	577.0	577.0	577.0	577.0	577.0

(END OF REPORT)