

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: P644324

Luminaire Tested: CRQ4DIP-SR4F0-50D100U935-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644324  
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-SR4F0-50D100U935-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 1000 LUMENS PER FOOT  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

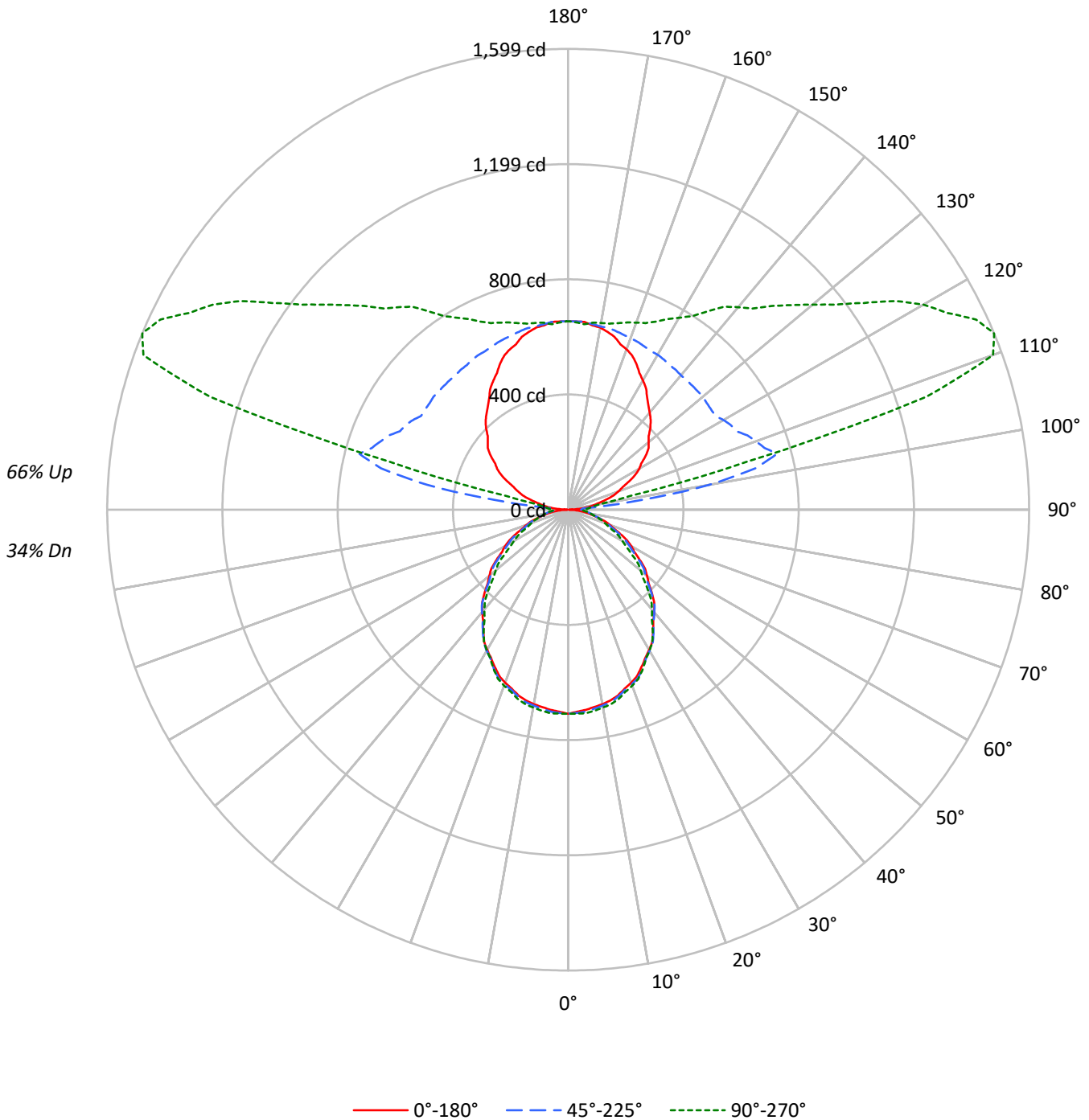
Lumens per Lamp: N/A  
Luminaire Lumens: 5339.3 lumens  
Efficiency: N/A  
Efficacy: 123.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Indirect

Input Watts (W): 43.3  
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41
1	94	90	86	82	85	81	78	75	65	63	60	50	48	47	36	35	34
2	86	78	72	67	77	71	66	61	57	53	50	44	41	39	32	30	29
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	26	25
4	71	61	53	47	64	55	49	43	44	40	36	34	31	29	25	23	21
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	20	19
6	60	49	41	35	54	44	37	32	36	31	27	28	24	22	21	18	16
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	15
8	52	40	32	27	46	36	29	25	29	24	21	23	20	17	17	15	13
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	14	12
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11

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

	0°	45°	90°
0°	11431	11431	11431
5°	11215	10093	9780
10°	11068	8980	8448
15°	10906	8042	7390
20°	10656	7214	6463
25°	10323	6442	5632
30°	9997	5692	4889
35°	9554	5006	4196
40°	9141	4383	3557
45°	8663	3767	2968
50°	8157	3190	2435
55°	7622	2684	1964
60°	7111	2200	1570
65°	6482	1754	1242
70°	5877	1375	981
75°	5139	1056	774
80°	4294	785	603
85°	3131	571	458

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8663 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.8	1.3
10°-20°	189.6	3.6
20°-30°	279.9	5.2
30°-40°	321.8	6.0
40°-50°	312.2	5.8
50°-60°	261.3	4.9
60°-70°	188.3	3.5
70°-80°	115.0	2.2
80°-90°	57.4	1.1
90°-100°	102.5	1.9
100°-110°	580.9	10.9
110°-120°	780.6	14.6
120°-130°	634.2	11.9
130°-140°	509.3	9.5
140°-150°	401.4	7.5
150°-160°	293.5	5.5
160°-170°	182.3	3.4
170°-180°	62.2	1.2
0°-30°	536.4	10.0
0°-40°	858.2	16.1
0°-60°	1431.8	26.8
0°-90°	1792.5	33.6
90°-120°	1464.0	27.4
90°-150°	3008.9	56.4
90°-180°	3547.0	66.4
0°-180°	5339.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	708	708	708	708	708	
5°	697	710	703	704	709	66
15°	667	677	671	674	679	188
25°	602	612	610	607	611	277
35°	513	521	516	511	511	321
45°	411	415	408	396	390	317
55°	303	307	296	278	269	272
65°	200	201	191	177	172	199
75°	108	108	110	107	105	115
85°	33	40	55	59	59	35
90°	3	24	44	54	55	5
95°	43	70	54	65	74	45
105°	138	200	749	960	640	145
115°	233	278	644	1336	1561	231
125°	329	371	606	1057	1250	292
135°	403	447	609	871	999	310
145°	477	517	613	758	839	300
155°	559	579	625	688	720	257
165°	621	629	642	658	670	174
175°	654	658	654	650	646	62
180°	654	654	654	654	654	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	708.0	708.0	708.0	708.0	708.0
2.5°	701.6	711.8	705.6	707.2	708.0
5°	697.0	709.7	703.0	704.1	709.0
7.5°	690.6	702.3	696.4	697.7	703.4
10°	685.0	696.7	690.0	692.1	697.0
12.5°	677.8	688.7	683.6	685.7	690.6
15°	667.0	676.8	671.0	674.1	679.0
17.5°	651.0	661.6	655.4	657.1	662.0
20°	639.0	648.8	645.0	645.1	650.0
22.5°	624.6	635.2	632.2	629.9	635.6
25°	602.0	611.8	610.0	607.1	611.0
27.5°	579.6	586.8	583.4	580.5	583.4
30°	562.0	570.8	565.0	562.1	565.0
32.5°	542.8	551.6	545.8	542.0	543.4
35°	513.0	520.8	516.0	511.0	511.0
37.5°	484.8	489.9	486.6	478.2	476.0
40°	464.0	469.9	465.0	454.9	452.0
42.5°	442.4	448.3	442.6	431.7	427.2
45°	411.0	414.9	408.0	395.9	390.0
47.5°	378.6	382.7	373.2	359.8	352.8
50°	357.0	361.9	350.0	335.8	328.0
52.5°	336.2	339.5	328.4	311.8	304.8
55°	303.0	306.9	296.0	277.8	269.0
57.5°	272.0	275.7	262.8	245.4	238.6
60°	252.0	254.9	242.0	223.8	217.0
62.5°	229.6	232.5	220.4	204.6	197.8
65°	200.0	201.0	191.0	176.9	172.0
67.5°	172.2	172.2	163.8	153.3	149.4
70°	153.0	153.0	147.0	138.9	135.0
72.5°	135.4	134.6	131.0	125.3	122.2
75°	108.0	108.0	110.0	107.0	105.0
77.5°	84.0	82.4	91.0	90.6	89.6
80°	68.0	68.0	79.0	81.0	80.0
82.5°	53.6	55.2	69.4	72.2	71.2
85°	33.0	39.8	55.0	59.0	59.0
87.5°	15.0	27.7	44.8	50.9	51.1
90°	3.0	23.6	44.2	54.4	55.3
92.5°	16.1	28.9	47.7	61.2	66.2
95°	42.9	70.1	53.9	65.2	74.2
97.5°	70.4	123.0	257.0	92.4	83.9
100°	90.1	151.7	497.3	159.9	113.6
102.5°	109.1	173.8	665.2	390.8	221.4
105°	137.5	200.0	749.4	960.0	640.2
107.5°	165.9	211.7	713.4	1389.6	1302.9
110°	184.8	228.2	692.9	1458.2	1567.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	204.6	247.9	673.2	1415.5	1599.1
115°	233.2	277.5	643.6	1335.5	1560.7
117.5°	262.4	307.1	636.0	1248.1	1479.7
120°	284.7	326.9	622.0	1181.7	1422.9
122.5°	301.1	345.8	605.5	1125.3	1347.3
125°	328.9	371.2	605.5	1057.2	1250.2
127.5°	351.5	395.8	606.4	978.2	1168.8
130°	363.9	412.2	609.7	925.3	1106.3
132.5°	378.8	427.0	608.9	901.6	1050.3
135°	403.0	447.3	608.7	870.7	999.3
137.5°	423.6	471.0	608.7	836.5	946.7
140°	440.0	484.3	608.7	816.6	917.1
142.5°	456.5	497.5	611.9	793.4	887.5
145°	477.1	517.3	612.8	758.5	839.0
147.5°	501.7	537.1	617.7	733.4	795.4
150°	518.2	550.4	621.0	716.8	769.0
152.5°	534.6	563.6	621.0	703.4	746.0
155°	559.3	579.4	625.1	687.5	719.7
157.5°	579.0	598.3	630.0	677.5	700.8
160°	592.2	608.3	633.3	670.8	690.9
162.5°	602.1	618.2	636.6	667.4	681.0
165°	621.0	629.0	641.6	658.3	670.3
167.5°	631.7	638.9	645.7	654.1	661.3
170°	641.6	645.6	645.7	654.0	658.0
172.5°	644.8	652.1	649.0	650.7	654.7
175°	653.9	657.9	653.9	649.7	645.7
177.5°	653.9	657.1	653.9	653.8	650.6
180°	653.9	653.9	653.9	653.9	653.9

(END OF REPORT)