

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: P644384

Luminaire Tested: CRQ4DIP-SR4F0-50D75U935-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644384  
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-SR4F0-50D75U935-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: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

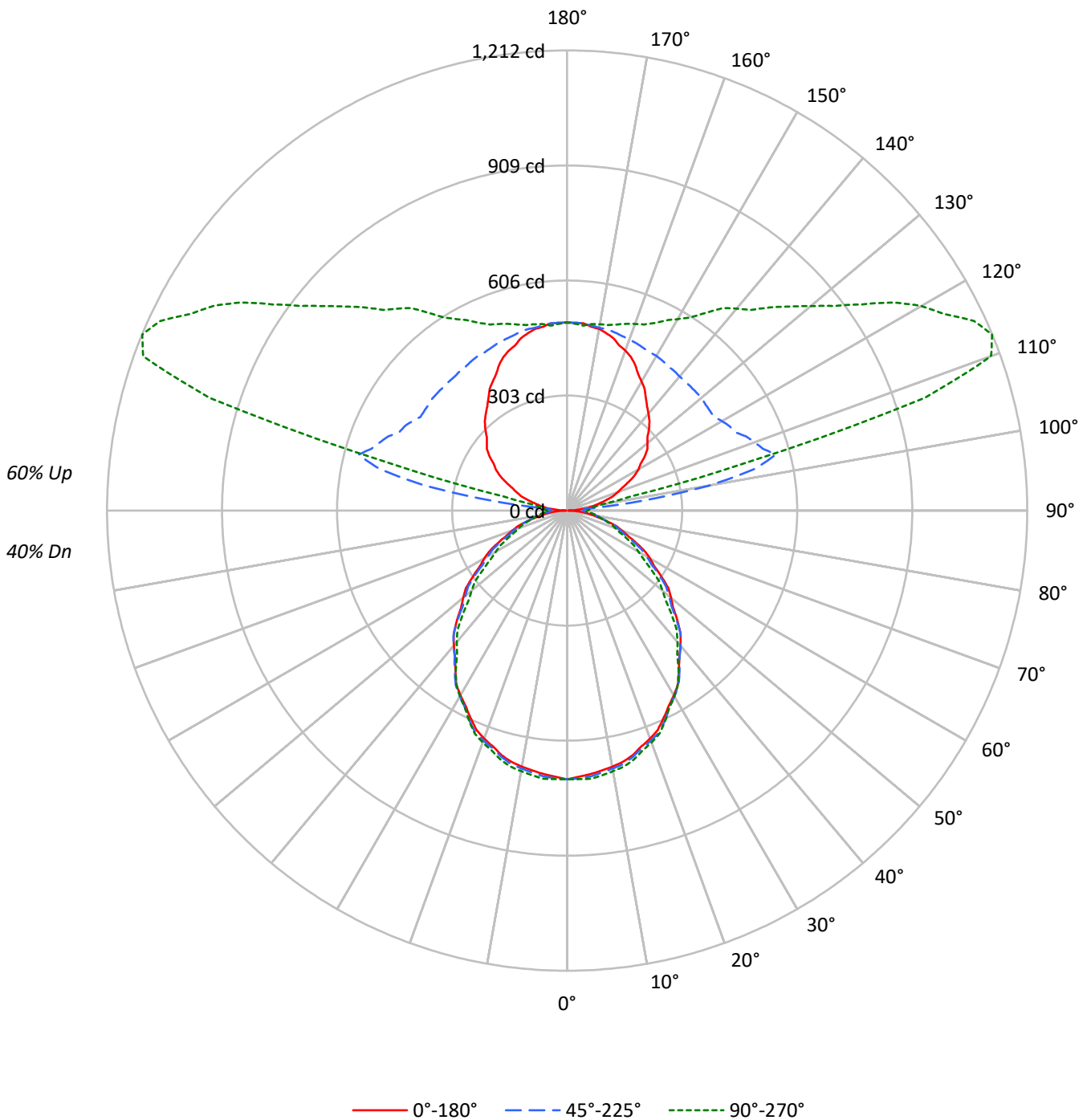
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4485.8 lumens  
Efficiency: N/A  
Efficacy: 127.8 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: 0.33')  
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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	91	87	84	87	83	80	77	68	66	63	54	52	51	41	40	39	33
2	87	80	73	68	79	73	67	63	59	56	53	47	45	43	36	35	33	28
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28	24
4	73	62	54	48	66	57	50	45	47	42	38	37	34	31	29	26	24	20
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	23	21	18
6	61	49	41	36	56	45	38	33	38	32	28	30	27	24	24	21	19	16
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	40	33	28	48	37	30	26	31	26	22	25	21	19	20	17	15	13
9	49	37	30	25	44	34	27	23	28	23	20	23	19	17	18	16	14	11
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12	10

**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	1.5
10°-20°	189.6	4.2
20°-30°	279.9	6.2
30°-40°	321.8	7.2
40°-50°	312.2	7.0
50°-60°	261.3	5.8
60°-70°	188.3	4.2
70°-80°	115.0	2.6
80°-90°	57.0	1.3
90°-100°	83.0	1.9
100°-110°	441.8	9.8
110°-120°	591.7	13.2
120°-130°	480.4	10.7
130°-140°	385.6	8.6
140°-150°	303.9	6.8
150°-160°	222.2	5.0
160°-170°	138.0	3.1
170°-180°	47.1	1.0
0°-30°	536.4	12.0
0°-40°	858.2	19.1
0°-60°	1431.8	31.9
0°-90°	1792.1	40.0
90°-120°	1116.4	24.9
90°-150°	2286.4	51.0
90°-180°	2694.0	60.1
0°-180°	4485.8	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	23	42	51	52	5
95°	35	55	46	56	63	36
105°	106	152	569	729	487	112
115°	178	211	488	1012	1182	177
125°	250	282	459	800	947	222
135°	305	339	461	659	757	235
145°	361	392	464	574	635	227
155°	424	439	473	521	545	194
165°	470	476	486	498	508	132
175°	495	498	495	492	489	47
180°	495	495	495	495	495	

TEST NUMBER: P644384

CATALOG NUMBER: CRQ4DIP-SR4F0-50D75U935-FLLOOB-1DUDD-WW

**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	27.5	44.4	50.3	50.5
90°	3.0	22.7	42.2	51.4	52.3
92.5°	13.7	25.5	43.3	55.0	59.2
95°	34.9	55.2	45.9	56.2	63.3
97.5°	56.2	94.6	198.3	75.0	68.9
100°	71.2	116.1	379.4	125.2	90.6
102.5°	85.3	132.7	505.8	299.2	171.3
105°	106.5	152.4	568.6	729.0	487.4
107.5°	127.7	161.0	540.9	1053.5	988.1
110°	141.9	173.5	525.1	1105.1	1188.2



TEST NUMBER: P644384

CATALOG NUMBER: CRQ4DIP-SR4F0-50D75U935-FLLOOB-1DUDD-WW

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	156.8	188.5	510.2	1072.3	1211.5
115°	178.3	210.9	487.8	1011.6	1182.1
117.5°	200.1	233.3	481.9	945.1	1120.5
120°	216.7	248.3	471.2	894.7	1077.4
122.5°	229.2	262.4	458.7	852.0	1020.1
125°	250.0	281.5	458.7	800.5	946.6
127.5°	266.8	300.2	459.3	740.6	884.9
130°	276.0	312.5	461.8	700.6	837.6
132.5°	286.9	323.4	461.0	682.6	795.3
135°	305.2	338.6	460.8	659.2	756.7
137.5°	320.7	356.6	460.8	633.4	716.8
140°	333.2	366.7	460.8	618.3	694.4
142.5°	345.6	376.7	463.3	600.7	672.0
145°	361.2	391.6	464.0	574.3	635.2
147.5°	379.9	406.7	467.7	555.3	602.2
150°	392.3	416.7	470.2	542.7	582.3
152.5°	404.8	426.7	470.2	532.6	564.8
155°	423.5	438.7	473.3	520.6	544.9
157.5°	438.4	453.0	477.0	512.9	530.6
160°	448.4	460.6	479.5	507.9	523.1
162.5°	455.9	468.0	482.0	505.3	515.6
165°	470.2	476.3	485.8	498.4	507.5
167.5°	478.3	483.8	488.9	495.2	500.7
170°	485.8	488.8	488.9	495.2	498.2
172.5°	488.2	493.7	491.4	492.7	495.7
175°	495.1	498.1	495.1	491.9	488.9
177.5°	495.1	497.5	495.1	495.0	492.6
180°	495.1	495.1	495.1	495.1	495.1

(END OF REPORT)