

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: P644361

Luminaire Tested: CRQ4DIP-SR4F0-50D25U940-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644361  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-50D25U940-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 250 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

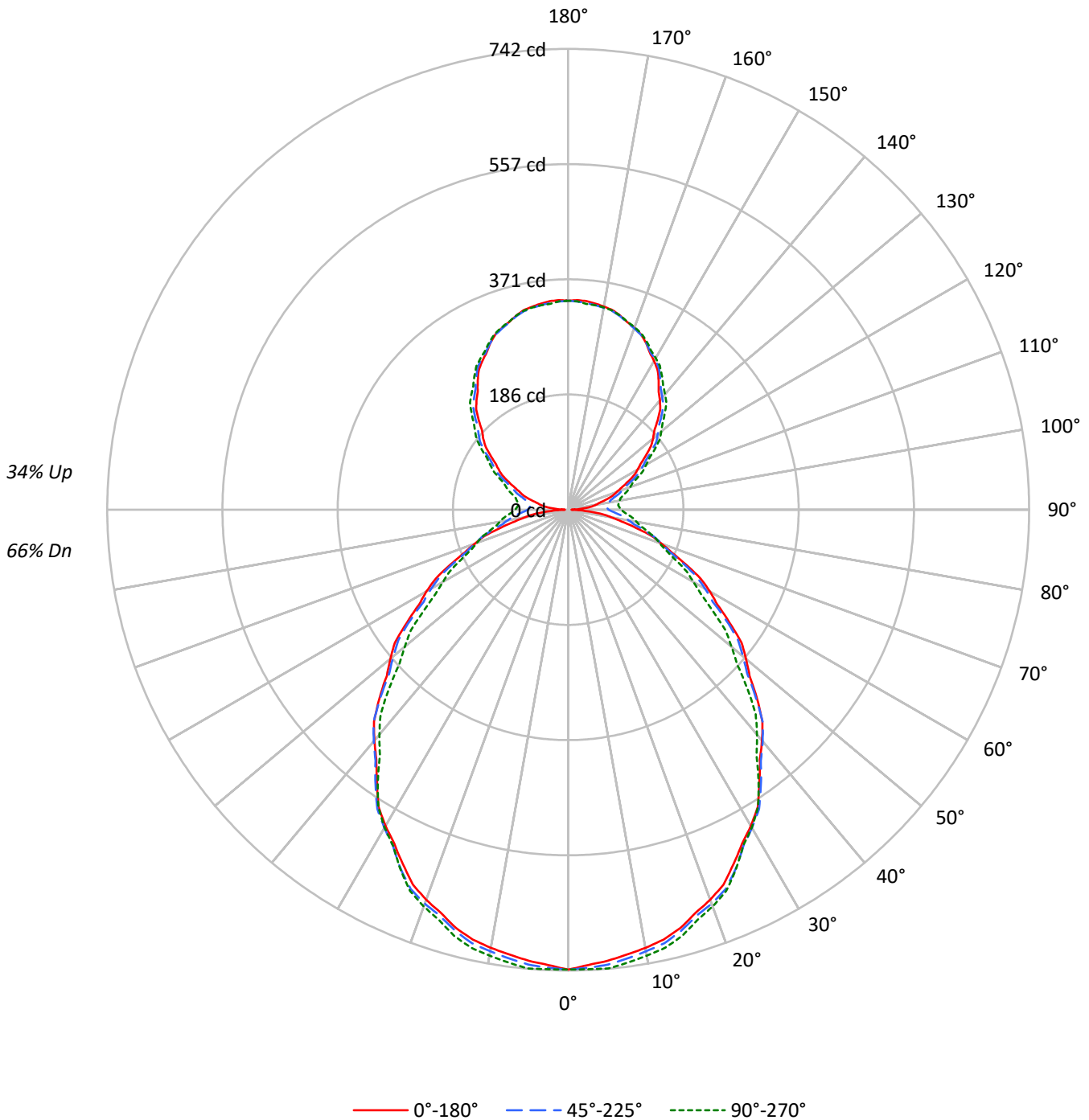
Lumens per Lamp: N/A  
Luminaire Lumens: 2902.4 lumens  
Efficiency: N/A  
Efficacy: 128.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

Input Watts (W): 22.6  
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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66
1	101	96	92	88	95	91	87	83	80	77	75	70	68	66	62	60	59	54
2	92	84	77	72	86	79	73	68	70	66	62	62	58	55	54	52	49	45
3	84	74	66	60	78	70	63	57	62	57	52	55	51	47	48	45	42	39
4	77	66	57	51	72	62	55	49	55	49	45	49	44	40	43	39	36	33
5	71	59	50	44	66	55	48	42	50	43	39	44	39	35	39	35	32	29
6	65	53	44	38	61	50	42	37	45	38	34	40	35	31	35	31	28	25
7	60	48	39	34	57	45	38	32	41	34	30	36	31	27	32	28	25	23
8	56	43	35	30	53	41	34	29	37	31	27	33	28	25	30	26	23	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	23	20	18
10	49	37	29	24	46	35	28	23	32	26	22	29	24	20	26	22	19	17

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

	0°	45°	90°
0°	11956	11956	11956
5°	11730	10555	10228
10°	11575	9396	8836
15°	11406	8414	7728
20°	11145	7549	6760
25°	10797	6738	5890
30°	10456	5960	5113
35°	9992	5246	4388
40°	9560	4587	3720
45°	9059	3943	3105
50°	8532	3346	2546
55°	7972	2814	2072
60°	7438	2314	1683
65°	6781	1867	1372
70°	6146	1495	1135
75°	5377	1204	965
80°	4489	981	840
85°	3273	835	756

**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	2.4
10°-20°	198.4	6.8
20°-30°	292.9	10.1
30°-40°	336.9	11.6
40°-50°	326.9	11.3
50°-60°	274.5	9.5
60°-70°	201.7	6.9
70°-80°	131.7	4.5
80°-90°	80.3	2.8
90°-100°	63.2	2.2
100°-110°	81.6	2.8
110°-120°	113.8	3.9
120°-130°	145.5	5.0
130°-140°	163.8	5.6
140°-150°	161.7	5.6
150°-160°	136.8	4.7
160°-170°	91.1	3.1
170°-180°	31.8	1.1
0°-30°	561.2	19.3
0°-40°	898.0	30.9
0°-60°	1499.4	51.7
0°-90°	1913.1	65.9
90°-120°	258.6	8.9
90°-150°	729.6	25.1
90°-180°	989.0	34.1
0°-180°	2902.4	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	546	541	534	534	336
45°	430	435	427	414	408	331
55°	317	322	310	292	284	284
65°	209	212	203	193	190	208
75°	113	116	125	130	131	121
85°	34	50	80	94	97	37
90°	6	32	65	81	85	6
95°	26	33	62	78	81	26
105°	63	62	76	89	92	67
115°	106	107	115	122	124	105
125°	153	157	164	169	170	137
135°	204	208	212	218	220	157
145°	254	257	258	260	263	159
155°	296	298	297	297	299	136
165°	324	325	322	321	324	91
175°	337	338	334	333	333	32
180°	336	336	336	336	336	



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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	738.2	739.6	740.5
5°	729.0	742.2	735.2	736.4	741.5
7.5°	722.3	734.8	728.7	729.7	735.6
10°	716.4	728.7	722.0	723.8	729.0
12.5°	708.9	720.9	715.0	717.1	722.3
15°	697.6	708.5	702.1	705.0	710.1
17.5°	680.8	692.2	685.8	687.2	692.4
20°	668.3	678.9	674.9	674.7	679.8
22.5°	653.2	664.6	661.5	658.8	664.7
25°	629.6	640.5	638.0	634.9	639.0
27.5°	606.2	615.0	610.6	607.1	610.1
30°	587.8	597.7	591.6	587.8	590.9
32.5°	567.7	577.9	571.5	566.9	568.3
35°	536.5	545.7	540.7	534.4	534.4
37.5°	507.0	513.7	509.3	500.1	497.8
40°	485.3	492.8	486.7	475.8	472.7
42.5°	462.7	470.2	463.5	451.5	446.8
45°	429.8	435.0	427.1	414.0	407.9
47.5°	396.0	401.6	390.8	376.3	369.0
50°	373.4	379.5	367.1	351.2	343.0
52.5°	351.6	356.4	344.2	326.4	319.3
55°	316.9	322.4	310.3	291.6	283.8
57.5°	284.5	289.8	276.0	259.9	253.5
60°	263.6	268.0	254.5	238.8	232.7
62.5°	240.1	244.9	232.5	220.1	214.6
65°	209.2	212.3	203.3	193.3	189.9
67.5°	180.1	182.2	176.2	171.2	169.2
70°	160.0	162.1	159.8	157.8	156.2
72.5°	141.6	143.2	145.1	145.9	145.1
75°	113.0	115.7	125.4	130.1	130.9
77.5°	87.9	90.0	108.7	116.9	118.7
80°	71.1	76.0	98.7	109.4	111.5
82.5°	56.1	63.7	90.9	103.3	105.5
85°	34.5	50.1	80.4	94.3	97.4
87.5°	16.2	38.9	71.2	86.3	90.0
90°	5.6	32.4	64.8	80.8	85.3
92.5°	13.8	31.4	62.7	78.4	82.6
95°	26.5	32.8	61.6	77.9	81.0
97.5°	37.9	38.3	63.8	78.5	81.7
100°	45.0	43.8	66.5	80.3	83.8
102.5°	52.2	50.1	70.0	83.3	86.5
105°	63.0	61.7	76.3	89.1	92.2
107.5°	75.0	74.1	85.7	97.1	99.6
110°	83.0	83.5	93.2	103.2	105.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	92.4	92.9	101.4	109.8	112.5
115°	105.5	107.0	114.9	121.8	123.5
117.5°	119.1	121.7	128.7	134.4	136.1
120°	129.1	132.0	138.2	143.6	145.0
122.5°	138.6	141.4	148.2	153.6	155.0
125°	153.1	157.0	163.5	168.6	170.0
127.5°	167.9	172.5	178.5	183.6	185.4
130°	178.5	183.0	188.2	193.6	195.7
132.5°	187.7	192.2	197.3	203.3	205.7
135°	203.5	208.1	212.1	217.5	220.0
137.5°	219.0	223.4	226.5	230.8	233.9
140°	229.6	233.5	235.7	239.7	242.5
142.5°	239.3	243.2	244.8	248.2	251.0
145°	253.9	257.0	258.5	260.4	263.2
147.5°	267.5	270.6	271.3	272.9	274.6
150°	276.4	279.2	279.3	280.0	281.8
152.5°	284.7	287.2	286.4	286.9	288.9
155°	296.4	298.1	296.7	297.1	298.9
157.5°	305.7	307.4	305.2	305.9	307.3
160°	311.4	313.1	310.7	311.1	312.5
162.5°	316.8	318.0	315.8	315.4	317.3
165°	323.5	324.9	322.5	321.4	323.5
167.5°	329.2	330.6	327.4	326.3	328.4
170°	332.1	333.5	330.0	328.6	330.7
172.5°	334.7	336.1	332.2	330.6	332.1
175°	337.1	338.5	334.2	332.8	332.8
177.5°	337.8	338.7	335.5	334.1	335.8
180°	336.4	336.4	336.4	336.4	336.4

(END OF REPORT)