

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: P644363

Luminaire Tested: CRQ4DIP-SR4F0-50D50U830-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644363  
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-SR4F0-50D50U830-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

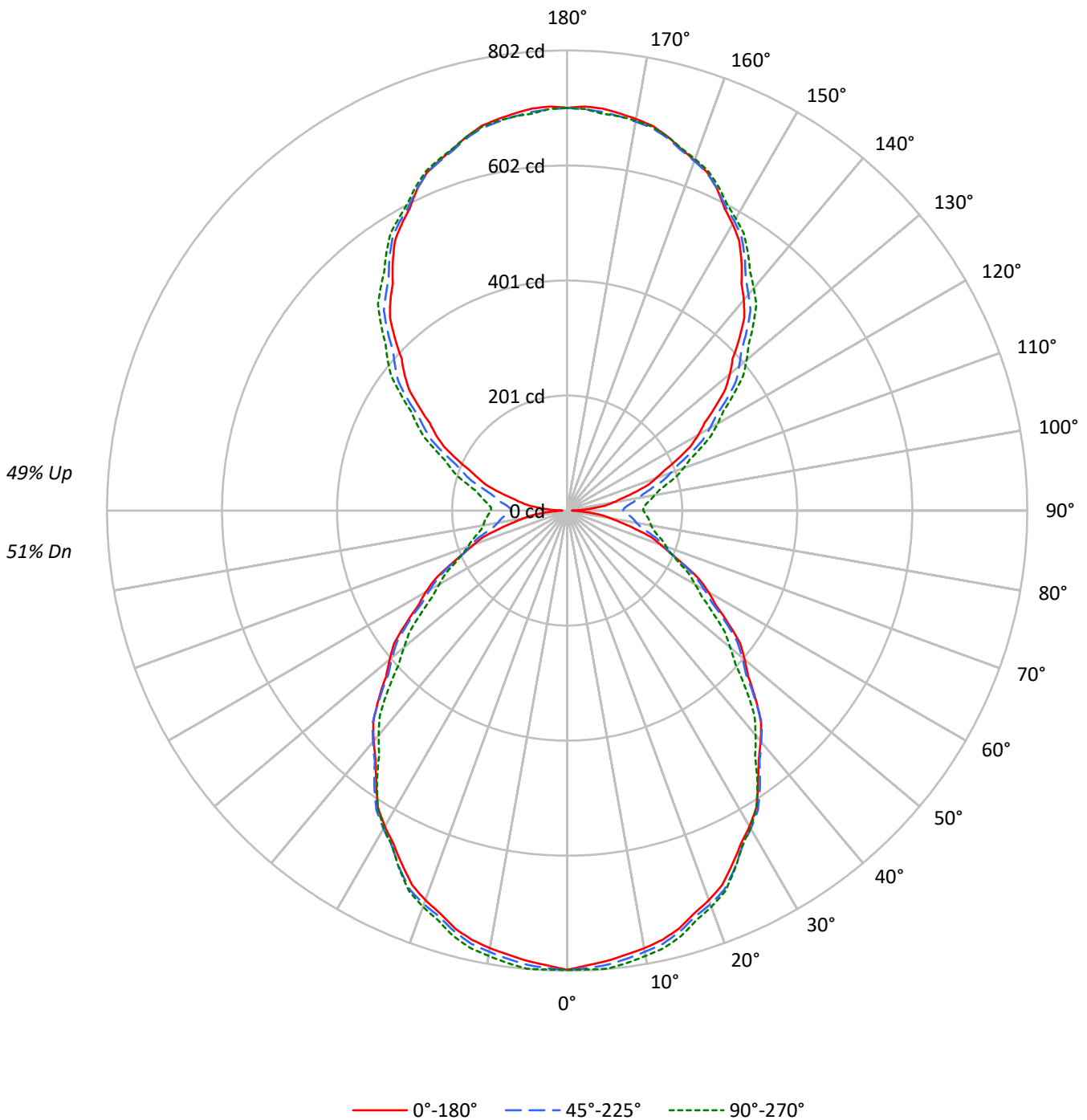
Lumens per Lamp: N/A  
Luminaire Lumens: 4136.5 lumens  
Efficiency: N/A  
Efficacy: 143.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

Input Watts (W): 28.9  
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																		
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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51																												
1	97	93	89	85	90	86	82	79	73	70	67	60	59	57	49	48	47	42																												
2	89	81	74	69	81	75	69	65	63	59	56	53	50	47	43	41	39	35																												
3	81	71	64	58	74	66	59	54	56	51	47	47	43	40	38	36	33	29																												
4	74	63	55	49	68	58	51	46	50	44	40	42	38	34	34	31	29	25																												
5	68	56	48	42	62	52	45	39	45	39	35	38	33	30	31	28	25	22																												
6	63	50	42	36	58	47	40	34	40	34	30	34	30	26	28	25	22	19																												
7	58	46	37	32	53	42	35	30	37	31	27	31	27	23	26	22	20	17																												
8	54	41	34	28	50	39	32	27	33	28	24	28	24	21	24	20	18	15																												
9	50	38	30	25	46	35	28	24	31	25	21	26	22	19	22	19	16	14																												
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	15	13																												

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

	0°	45°	90°
0°	12925	12925	12925
5°	12681	11411	11057
10°	12514	10163	9552
15°	12330	9101	8355
20°	12049	8165	7308
25°	11671	7284	6368
30°	11302	6451	5527
35°	10802	5682	4744
40°	10334	4963	4021
45°	9795	4265	3356
50°	9222	3628	2753
55°	8618	3049	2259
60°	8039	2515	1861
65°	7328	2052	1555
70°	6645	1673	1337
75°	5810	1402	1199
80°	4855	1221	1119
85°	3539	1141	1096

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9795 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.6	1.8
10°-20°	214.5	5.2
20°-30°	316.8	7.7
30°-40°	364.5	8.8
40°-50°	353.7	8.6
50°-60°	298.0	7.2
60°-70°	222.8	5.4
70°-80°	153.9	3.7
80°-90°	108.8	2.6
90°-100°	108.5	2.6
100°-110°	161.9	3.9
110°-120°	234.6	5.7
120°-130°	302.3	7.3
130°-140°	341.5	8.3
140°-150°	337.4	8.2
150°-160°	285.4	6.9
160°-170°	190.0	4.6
170°-180°	66.4	1.6
0°-30°	606.9	14.7
0°-40°	971.3	23.5
0°-60°	1623.1	39.2
0°-90°	2108.5	51.0
90°-120°	505.0	12.2
90°-150°	1486.2	35.9
90°-180°	2028.0	49.0
0°-180°	4136.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	800	800	800	800	800	
5°	788	802	795	796	802	75
15°	754	767	759	762	768	212
25°	681	693	690	686	691	314
35°	580	591	586	578	578	363
45°	465	471	462	448	441	358
55°	343	350	336	316	309	307
65°	226	232	223	217	215	225
75°	122	128	146	159	163	131
85°	37	62	110	135	141	40
90°	9	47	97	124	133	8
95°	45	59	106	133	139	44
105°	121	124	154	176	181	129
115°	213	220	238	252	256	211
125°	315	325	340	352	355	282
135°	425	434	443	454	459	327
145°	530	536	539	543	549	331
155°	618	622	619	620	624	284
165°	675	678	673	671	675	190
175°	703	706	697	694	694	67
180°	702	702	702	702	702	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	800.5	800.5	800.5	800.5	800.5
2.5°	793.3	804.8	798.4	799.6	800.5
5°	788.1	802.4	794.8	796.1	801.6
7.5°	780.8	794.7	788.1	788.9	795.3
10°	774.5	787.8	780.9	782.5	788.1
12.5°	766.3	779.9	773.1	775.3	780.8
15°	754.1	766.6	759.4	762.2	767.7
17.5°	736.0	748.7	741.8	743.0	748.5
20°	722.5	734.3	730.0	729.4	734.9
22.5°	706.2	718.9	715.5	712.2	718.6
25°	680.6	693.2	689.7	686.4	690.8
27.5°	655.3	666.1	660.5	656.3	659.6
30°	635.4	646.8	640.3	635.5	638.8
32.5°	613.7	625.7	618.6	612.8	614.4
35°	580.0	591.0	585.6	577.8	577.8
37.5°	548.1	556.8	550.9	540.6	538.2
40°	524.6	534.2	526.5	514.4	511.0
42.5°	500.2	509.7	501.8	488.1	483.0
45°	464.7	471.3	462.0	447.6	440.9
47.5°	428.1	435.5	423.0	406.8	398.9
50°	403.6	411.4	398.0	379.7	370.9
52.5°	380.1	386.6	372.9	353.2	345.8
55°	342.6	349.9	336.2	316.4	309.4
57.5°	307.5	314.6	299.5	284.3	278.1
60°	284.9	291.2	276.6	262.8	257.3
62.5°	259.6	266.4	253.4	244.1	239.7
65°	226.1	231.6	223.4	217.2	215.3
67.5°	194.7	199.1	195.5	195.9	196.0
70°	173.0	177.4	178.9	183.3	183.9
72.5°	153.1	157.2	165.0	172.7	174.2
75°	122.1	127.9	146.0	159.1	162.7
77.5°	95.0	101.1	131.1	148.6	153.5
80°	76.9	87.1	122.8	143.1	148.6
82.5°	60.6	74.9	116.8	139.7	145.2
85°	37.3	62.5	109.9	134.7	141.2
87.5°	18.0	52.9	103.1	129.2	136.8
90°	8.6	47.1	97.3	124.4	132.8
92.5°	22.4	49.6	99.6	126.1	133.0
95°	44.8	59.0	106.4	133.1	138.6
97.5°	66.5	73.7	117.2	141.7	147.1
100°	81.4	86.0	126.1	149.7	154.8
102.5°	97.2	100.0	136.8	159.2	164.6
105°	120.8	124.4	153.9	176.4	180.8
107.5°	147.2	151.3	175.9	196.7	200.9
110°	164.8	170.9	192.2	211.0	215.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	184.4	190.6	209.5	226.5	231.2
115°	212.8	220.0	237.7	251.9	255.6
117.5°	242.4	250.7	266.7	279.6	283.1
120°	264.2	272.2	287.2	299.6	302.5
122.5°	283.9	292.7	308.1	320.4	323.3
125°	315.2	325.4	340.1	351.7	354.6
127.5°	347.4	357.7	371.3	383.0	386.8
130°	370.3	379.8	391.5	403.9	408.3
132.5°	391.1	400.6	411.5	424.2	429.1
135°	424.7	434.1	442.6	453.8	458.9
137.5°	457.0	466.2	472.7	481.6	488.0
140°	479.1	487.1	491.7	500.1	505.9
142.5°	499.3	507.3	510.8	517.9	523.8
145°	529.7	536.3	539.4	543.3	549.1
147.5°	558.2	564.6	565.9	569.3	572.9
150°	576.7	582.5	582.6	584.2	587.8
152.5°	593.9	599.2	597.5	598.5	602.7
155°	618.4	622.0	619.1	620.0	623.6
157.5°	637.8	641.4	636.9	638.3	641.2
160°	649.7	653.3	648.2	649.0	651.9
162.5°	661.0	663.5	658.9	658.0	662.0
165°	675.0	677.9	672.8	670.6	675.0
167.5°	686.9	689.8	683.0	680.8	685.1
170°	692.9	695.8	688.4	685.5	689.9
172.5°	698.2	701.2	693.2	689.7	692.9
175°	703.3	706.2	697.4	694.4	694.4
177.5°	704.8	706.6	700.0	697.1	700.6
180°	701.8	701.8	701.8	701.8	701.8

(END OF REPORT)