

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: P644367

Luminaire Tested: CRQ4DIP-SR4F0-50D50U840-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644367  
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-SR4F0-50D50U840-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: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

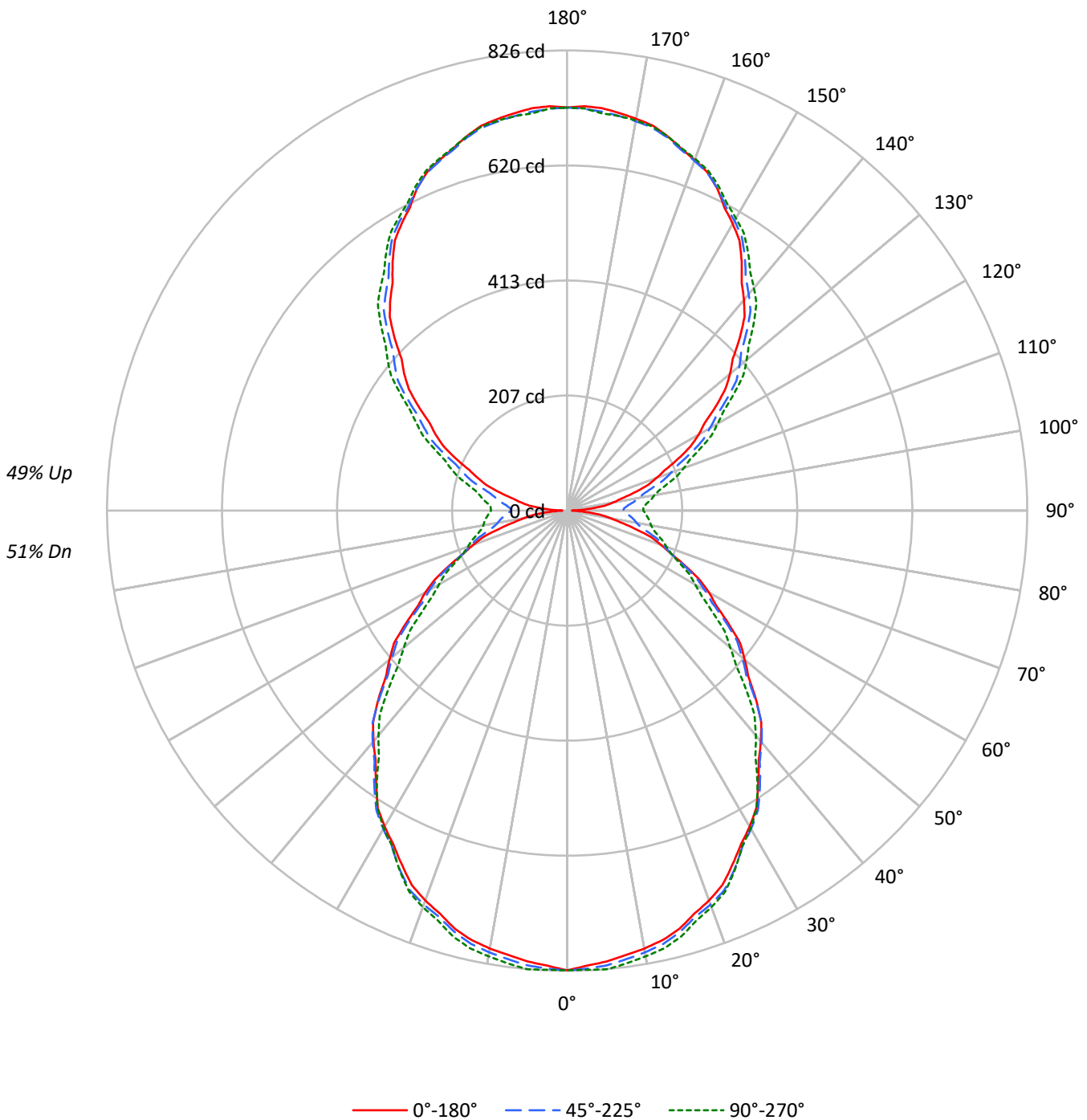
Lumens per Lamp: N/A  
Luminaire Lumens: 4263.6 lumens  
Efficiency: N/A  
Efficacy: 147.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

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				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	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°	13322	13322	13322
5°	13070	11763	11398
10°	12899	10475	9846
15°	12709	9382	8612
20°	12419	8417	7532
25°	12031	7508	6564
30°	11651	6649	5698
35°	11133	5856	4890
40°	10651	5115	4146
45°	10096	4398	3459
50°	9505	3739	2838
55°	8882	3142	2328
60°	8288	2592	1918
65°	7555	2115	1604
70°	6849	1725	1378
75°	5991	1445	1236
80°	5001	1258	1153
85°	3653	1176	1130

**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	1.8
10°-20°	221.1	5.2
20°-30°	326.5	7.7
30°-40°	375.7	8.8
40°-50°	364.6	8.6
50°-60°	307.2	7.2
60°-70°	229.7	5.4
70°-80°	158.6	3.7
80°-90°	112.1	2.6
90°-100°	111.9	2.6
100°-110°	166.8	3.9
110°-120°	241.8	5.7
120°-130°	311.6	7.3
130°-140°	352.0	8.3
140°-150°	347.7	8.2
150°-160°	294.1	6.9
160°-170°	195.8	4.6
170°-180°	68.5	1.6
0°-30°	625.5	14.7
0°-40°	1001.2	23.5
0°-60°	1673.0	39.2
0°-90°	2173.3	51.0
90°-120°	520.5	12.2
90°-150°	1531.9	35.9
90°-180°	2090.0	49.0
0°-180°	4263.6	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	790	783	786	791	219
25°	702	714	711	708	712	323
35°	598	609	604	596	596	374
45°	479	486	476	461	454	369
55°	353	361	346	326	319	317
65°	233	239	230	224	222	232
75°	126	132	150	164	168	135
85°	38	64	113	139	146	41
90°	9	48	100	128	137	8
95°	46	61	110	137	143	46
105°	124	128	159	182	186	133
115°	219	227	245	260	263	218
125°	325	335	351	362	366	291
135°	438	448	456	468	473	337
145°	546	553	556	560	566	341
155°	637	641	638	639	643	293
165°	696	699	694	691	696	196
175°	725	728	719	716	716	69
180°	723	723	723	723	723	

TEST NUMBER: P644367

CATALOG NUMBER: CRQ4DIP-SR4F0-50D50U840-FLLFLL-1DUDD-WW

**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	822.9	824.2	825.1
5°	812.3	827.1	819.3	820.6	826.3
7.5°	804.8	819.1	812.4	813.1	819.7
10°	798.3	812.0	804.9	806.6	812.3
12.5°	789.9	803.9	796.8	799.1	804.8
15°	777.3	790.2	782.8	785.6	791.3
17.5°	758.7	771.7	764.6	765.8	771.5
20°	744.7	756.8	752.5	751.8	757.5
22.5°	727.9	741.0	737.5	734.1	740.7
25°	701.6	714.5	710.9	707.5	712.1
27.5°	675.5	686.6	680.8	676.5	679.9
30°	655.0	666.7	660.0	655.0	658.5
32.5°	632.6	644.9	637.6	631.7	633.3
35°	597.8	609.2	603.6	595.5	595.5
37.5°	565.0	573.9	567.9	557.2	554.7
40°	540.7	550.6	542.7	530.2	526.8
42.5°	515.6	525.4	517.2	503.1	497.9
45°	479.0	485.8	476.3	461.3	454.5
47.5°	441.2	448.9	436.0	419.4	411.2
50°	416.0	424.0	410.2	391.4	382.3
52.5°	391.8	398.5	384.4	364.0	356.4
55°	353.1	360.7	346.5	326.1	318.9
57.5°	317.0	324.3	308.7	293.0	286.7
60°	293.7	300.1	285.1	270.9	265.2
62.5°	267.6	274.6	261.2	251.6	247.1
65°	233.1	238.7	230.3	223.9	222.0
67.5°	200.7	205.2	201.5	202.0	202.1
70°	178.3	182.8	184.4	188.9	189.6
72.5°	157.8	162.0	170.0	178.0	179.6
75°	125.9	131.9	150.5	163.9	167.7
77.5°	97.9	104.2	135.1	153.2	158.2
80°	79.2	89.8	126.6	147.5	153.1
82.5°	62.5	77.2	120.4	144.0	149.6
85°	38.5	64.5	113.2	138.8	145.6
87.5°	18.6	54.5	106.3	133.2	141.0
90°	8.9	48.5	100.3	128.2	136.9
92.5°	23.0	51.2	102.7	130.0	137.1
95°	46.2	60.8	109.7	137.2	142.8
97.5°	68.5	76.0	120.8	146.1	151.7
100°	83.9	88.7	129.9	154.3	159.6
102.5°	100.1	103.1	141.0	164.1	169.7
105°	124.5	128.2	158.6	181.8	186.4
107.5°	151.7	155.9	181.3	202.8	207.0
110°	169.8	176.1	198.2	217.5	222.4



TEST NUMBER: P644367

CATALOG NUMBER: CRQ4DIP-SR4F0-50D50U840-FLLFLL-1DUDD-WW

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	190.1	196.4	216.0	233.4	238.3
115°	219.3	226.8	245.0	259.7	263.4
117.5°	249.9	258.4	274.9	288.2	291.8
120°	272.3	280.5	296.1	308.8	311.8
122.5°	292.6	301.7	317.6	330.3	333.3
125°	324.9	335.4	350.6	362.5	365.5
127.5°	358.1	368.7	382.7	394.8	398.7
130°	381.7	391.5	403.6	416.3	420.8
132.5°	403.2	412.9	424.1	437.2	442.3
135°	437.7	447.5	456.2	467.8	473.1
137.5°	471.1	480.5	487.2	496.4	503.0
140°	493.8	502.0	506.8	515.4	521.4
142.5°	514.7	522.9	526.5	533.9	539.9
145°	546.0	552.8	556.0	560.0	566.0
147.5°	575.3	581.9	583.3	586.8	590.5
150°	594.4	600.4	600.5	602.2	605.9
152.5°	612.2	617.6	615.9	616.9	621.3
155°	637.4	641.1	638.2	639.0	642.8
157.5°	657.4	661.1	656.4	657.9	660.9
160°	669.6	673.4	668.1	668.9	671.9
162.5°	681.3	683.9	679.2	678.2	682.4
165°	695.8	698.8	693.5	691.2	695.8
167.5°	708.0	711.0	704.0	701.7	706.2
170°	714.2	717.2	709.6	706.6	711.1
172.5°	719.7	722.7	714.5	710.9	714.2
175°	724.9	727.9	718.8	715.7	715.7
177.5°	726.5	728.3	721.6	718.6	722.2
180°	723.4	723.4	723.4	723.4	723.4

(END OF REPORT)