

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: P644441

Luminaire Tested: CRQ4DIP-SR4F0-75D50U930-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644441  
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-SR4F0-75D50U930-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

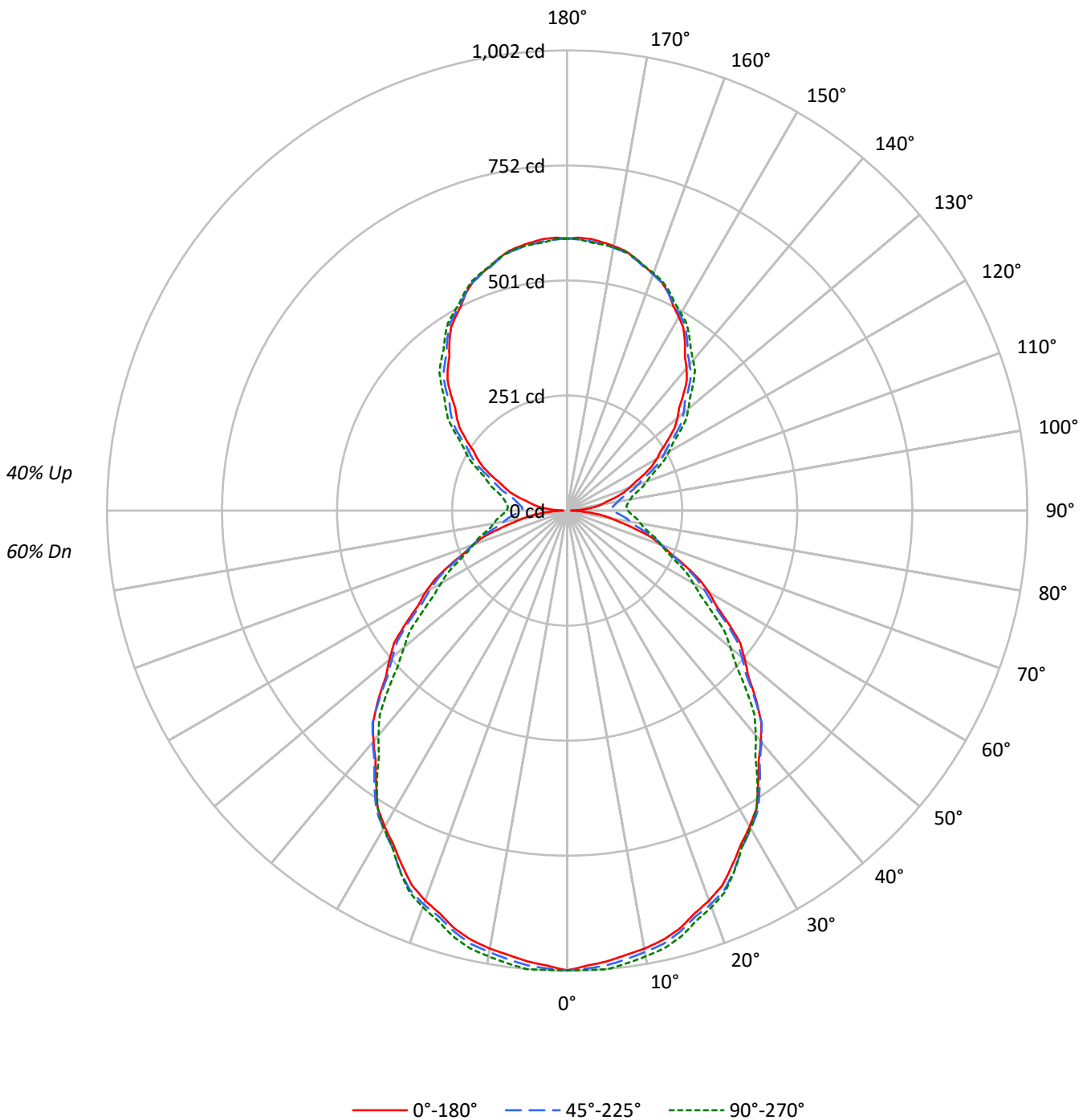
Lumens per Lamp: N/A  
Luminaire Lumens: 4330.0 lumens  
Efficiency: N/A  
Efficacy: 119.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

Input Watts (W): 36.4  
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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60				
1	99	95	91	87	93	89	85	82	77	74	72	67	65	63	57	55	54	49				
2	91	83	76	71	84	77	72	67	68	63	59	58	55	52	50	48	45	41				
3	83	73	65	59	77	68	61	56	60	54	50	52	48	44	44	41	39	35				
4	76	65	56	50	70	61	53	48	53	47	43	46	42	38	40	36	33	30				
5	70	58	49	43	65	54	47	41	48	42	37	42	37	33	36	32	29	26				
6	64	52	43	37	60	49	41	36	43	37	32	38	33	29	33	29	26	23				
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	21				
8	55	43	35	29	51	40	33	28	36	30	26	31	27	23	27	24	21	18				
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	22	19	17				
10	48	36	28	24	45	34	27	23	30	25	21	27	22	19	24	20	17	15				

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

	0°	45°	90°
0°	16162	16162	16162
5°	15857	14271	13828
10°	15649	12705	11945
15°	15420	11378	10448
20°	15067	10207	9138
25°	14597	9108	7963
30°	14134	8061	6913
35°	13508	7097	5933
40°	12923	6203	5030
45°	12248	5332	4197
50°	11534	4528	3443
55°	10777	3807	2808
60°	10054	3134	2292
65°	9166	2538	1884
70°	8309	2044	1579
75°	7266	1669	1368
80°	6068	1392	1222
85°	4431	1225	1136

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12248 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.5	2.2
10°-20°	268.2	6.2
20°-30°	396.0	9.1
30°-40°	455.5	10.5
40°-50°	442.0	10.2
50°-60°	371.7	8.6
60°-70°	274.6	6.3
70°-80°	182.7	4.2
80°-90°	117.5	2.7
90°-100°	101.8	2.4
100°-110°	140.3	3.2
110°-120°	199.3	4.6
120°-130°	255.7	5.9
130°-140°	288.3	6.7
140°-150°	284.7	6.6
150°-160°	240.8	5.6
160°-170°	160.3	3.7
170°-180°	56.1	1.3
0°-30°	758.7	17.5
0°-40°	1214.3	28.0
0°-60°	2028.0	46.8
0°-90°	2602.8	60.1
90°-120°	441.3	10.2
90°-150°	1270.0	29.3
90°-180°	1727.0	39.9
0°-180°	4330.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1001	1001	1001	1001	1001	
5°	986	1004	994	996	1002	94
15°	943	958	949	953	960	265
25°	851	866	862	858	864	392
35°	725	738	732	722	722	454
45°	581	588	578	560	551	448
55°	428	436	420	395	385	384
65°	283	288	276	265	261	281
75°	153	158	174	183	186	163
85°	47	71	118	141	146	49
90°	9	49	99	124	132	8
95°	42	54	100	125	130	41
105°	107	107	132	153	158	114
115°	183	187	202	214	217	181
125°	268	276	288	297	299	240
135°	358	366	374	383	387	276
145°	447	453	455	458	463	279
155°	522	525	522	523	526	240
165°	570	572	568	566	570	161
175°	594	596	588	586	586	56
180°	592	592	592	592	592	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1001.0	1001.0	1001.0	1001.0	1001.0
2.5°	992.0	1006.4	998.1	999.9	1001.0
5°	985.5	1003.5	994.0	995.5	1002.5
7.5°	976.4	993.5	985.3	986.5	994.5
10°	968.5	985.1	976.2	978.6	985.5
12.5°	958.3	974.8	966.7	969.5	976.4
15°	943.1	958.1	949.4	953.1	960.0
17.5°	920.4	936.0	927.3	929.1	936.0
20°	903.5	917.9	912.6	912.1	919.0
22.5°	883.1	898.7	894.5	890.7	898.7
25°	851.2	866.2	862.5	858.4	863.9
27.5°	819.5	831.9	825.6	820.7	824.9
30°	794.6	808.3	800.1	794.7	798.9
32.5°	767.5	781.6	773.0	766.4	768.3
35°	725.3	738.2	731.5	722.5	722.5
37.5°	685.5	695.1	688.6	676.1	673.0
40°	656.0	666.8	658.1	643.2	639.1
42.5°	625.5	636.3	626.9	610.4	604.0
45°	581.1	588.5	577.5	559.7	551.4
47.5°	535.3	543.4	528.5	508.8	498.8
50°	504.8	513.5	496.7	474.8	463.8
52.5°	475.4	482.4	465.7	441.4	432.0
55°	428.4	436.4	419.8	394.7	384.7
57.5°	384.6	392.3	373.6	352.7	344.4
60°	356.3	362.9	344.7	324.7	316.9
62.5°	324.6	331.7	315.1	300.1	293.2
65°	282.8	287.9	276.3	264.6	260.8
67.5°	243.5	247.2	240.3	235.8	234.1
70°	216.3	220.0	218.5	218.5	217.3
72.5°	191.4	194.5	199.4	203.3	203.2
75°	152.7	157.6	173.8	183.4	185.6
77.5°	118.8	123.2	152.4	167.0	170.7
80°	96.1	104.8	140.0	158.0	162.2
82.5°	75.8	88.6	130.4	151.1	155.2
85°	46.7	71.1	118.0	140.8	146.3
87.5°	22.1	57.0	106.9	131.3	137.8
90°	8.6	48.7	98.7	124.3	131.8
92.5°	21.7	48.8	97.7	122.8	129.5
95°	42.4	54.0	99.5	125.2	130.3
97.5°	61.6	65.0	105.9	129.3	134.4
100°	74.2	75.0	111.9	134.2	139.4
102.5°	87.1	86.4	119.5	140.7	145.8
105°	106.6	106.9	132.2	153.0	157.7
107.5°	128.3	129.1	149.7	168.6	172.6
110°	142.7	145.6	163.2	179.9	184.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	159.3	162.2	177.8	192.3	196.7
115°	182.8	187.1	201.5	213.5	216.6
117.5°	207.3	213.0	225.9	236.4	239.3
120°	225.3	231.1	242.9	252.8	255.3
122.5°	241.9	248.1	260.5	270.4	272.9
125°	267.9	275.5	287.5	296.8	299.3
127.5°	294.5	302.8	313.8	323.3	326.5
130°	313.4	321.4	330.9	340.9	344.6
132.5°	330.3	338.3	347.4	358.0	362.2
135°	358.4	366.4	373.5	383.0	387.3
137.5°	385.7	393.4	398.9	406.4	411.8
140°	404.3	411.1	415.0	422.0	426.9
142.5°	421.4	428.2	431.1	437.1	442.0
145°	447.1	452.6	455.2	458.5	463.4
147.5°	471.1	476.5	477.6	480.5	483.5
150°	486.7	491.6	491.7	493.0	496.1
152.5°	501.3	505.7	504.3	505.1	508.7
155°	521.9	525.0	522.5	523.2	526.3
157.5°	538.2	541.3	537.5	538.7	541.1
160°	548.3	551.4	547.0	547.7	550.2
162.5°	557.8	559.9	556.1	555.3	558.7
165°	569.7	572.1	567.8	566.0	569.7
167.5°	579.7	582.2	576.5	574.5	578.2
170°	584.8	587.2	581.0	578.6	582.2
172.5°	589.3	591.7	585.0	582.1	584.8
175°	593.6	596.0	588.5	586.0	586.0
177.5°	594.8	596.3	590.8	588.3	591.3
180°	592.3	592.3	592.3	592.3	592.3

(END OF REPORT)