

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: P644219

Luminaire Tested: CRQ4DIP-SR4F0-100D50U830-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

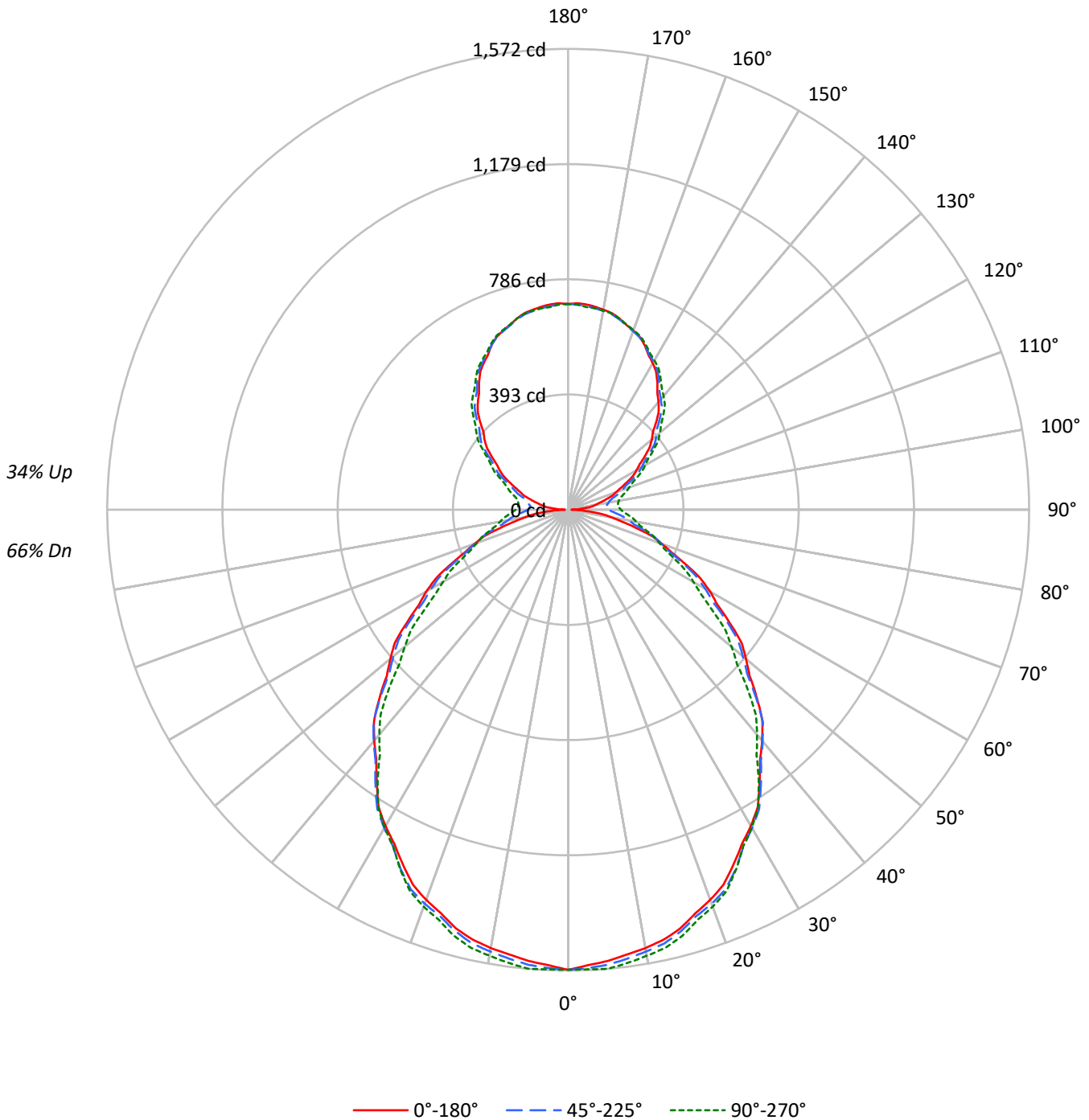
Test Method: LM-79-2019  
Report Number: P644219  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-100D50U830-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 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: 6118.6 lumens  
Efficiency: N/A  
Efficacy: 137.5 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: Semi-Direct  
  
Input Watts (W): 44.5  
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										
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	0														
RCR																																						
0	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66																				
1	101	96	92	88	95	91	87	84	80	77	75	71	69	67	62	60	59	55																				
2	92	84	77	72	86	79	73	69	70	66	62	62	59	56	54	52	50	46																				
3	84	74	66	60	79	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	41	43	40	37	33																				
5	71	59	50	44	66	56	48	42	50	43	39	44	39	35	39	35	32	29																				
6	65	53	44	38	61	50	42	37	45	39	34	40	35	31	36	31	28	26																				
7	60	48	40	34	57	45	38	32	41	35	30	37	31	28	33	28	25	23																				
8	56	43	35	30	53	41	34	29	37	31	27	34	28	25	30	26	23	20																				
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	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°	25339	25339	25339
5°	24859	22373	21678
10°	24534	19915	18726
15°	24174	17834	16380
20°	23620	16000	14327
25°	22883	14279	12484
30°	22158	12633	10836
35°	21177	11119	9301
40°	20261	9723	7885
45°	19201	8357	6580
50°	18081	7092	5397
55°	16894	5964	4391
60°	15763	4904	3565
65°	14368	3957	2905
70°	13026	3166	2402
75°	11392	2548	2039
80°	9515	2073	1773
85°	6936	1761	1594

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 19201 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.2	2.4
10°-20°	420.4	6.9
20°-30°	620.8	10.1
30°-40°	714.0	11.7
40°-50°	692.7	11.3
50°-60°	581.8	9.5
60°-70°	427.3	7.0
70°-80°	278.8	4.6
80°-90°	169.5	2.8
90°-100°	132.6	2.2
100°-110°	170.6	2.8
110°-120°	237.6	3.9
120°-130°	303.6	5.0
130°-140°	341.7	5.6
140°-150°	337.4	5.5
150°-160°	285.4	4.7
160°-170°	190.0	3.1
170°-180°	66.4	1.1
0°-30°	1189.4	19.4
0°-40°	1903.3	31.1
0°-60°	3177.9	51.9
0°-90°	4053.5	66.2
90°-120°	540.7	8.8
90°-150°	1523.3	24.9
90°-180°	2065.0	33.7
0°-180°	6118.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1569	1569	1569	1569	1569	
5°	1545	1573	1558	1561	1572	147
15°	1478	1502	1488	1494	1505	416
25°	1334	1358	1352	1346	1354	615
35°	1137	1157	1146	1133	1133	712
45°	911	922	905	878	864	702
55°	672	683	658	618	602	602
65°	443	450	431	409	402	441
75°	239	245	265	275	277	256
85°	73	106	170	199	205	77
90°	12	68	136	170	180	12
95°	56	69	129	164	170	54
105°	132	129	159	186	193	140
115°	220	223	240	254	258	219
125°	320	328	341	352	355	286
135°	425	434	443	454	459	328
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°	1569.4	1569.4	1569.4	1569.4	1569.4
2.5°	1555.2	1577.7	1564.6	1567.6	1569.4
5°	1545.0	1573.1	1558.3	1560.7	1571.6
7.5°	1530.8	1557.4	1544.4	1546.6	1559.2
10°	1518.4	1544.4	1530.2	1534.1	1545.0
12.5°	1502.4	1527.8	1515.4	1519.9	1530.8
15°	1478.5	1501.6	1488.1	1494.2	1505.1
17.5°	1443.0	1467.1	1453.5	1456.6	1467.4
20°	1416.4	1438.8	1430.5	1430.0	1440.8
22.5°	1384.5	1408.6	1402.1	1396.3	1408.9
25°	1334.4	1357.5	1352.1	1345.7	1354.3
27.5°	1284.7	1303.4	1294.1	1286.7	1293.2
30°	1245.7	1266.7	1253.9	1245.9	1252.4
32.5°	1203.2	1224.7	1211.3	1201.5	1204.5
35°	1137.1	1156.6	1146.0	1132.7	1132.7
37.5°	1074.6	1088.8	1079.3	1059.9	1055.1
40°	1028.5	1044.4	1031.5	1008.4	1001.9
42.5°	980.6	996.5	982.4	956.9	946.9
45°	911.0	921.9	905.1	877.5	864.5
47.5°	839.2	851.1	828.3	797.6	782.0
50°	791.3	804.3	778.0	744.4	727.0
52.5°	745.2	755.4	729.6	691.8	676.8
55°	671.6	683.2	657.6	618.1	601.5
57.5°	602.9	614.1	584.9	550.8	537.2
60°	558.6	568.0	539.4	505.9	492.9
62.5°	508.9	518.9	492.7	466.4	454.5
65°	443.3	449.9	430.8	409.3	402.1
67.5°	381.7	386.1	373.4	362.4	358.3
70°	339.1	343.5	338.5	334.1	330.5
72.5°	300.1	303.3	307.2	308.8	306.9
75°	239.4	245.2	265.4	275.2	276.7
77.5°	186.2	190.6	229.9	247.0	250.8
80°	150.7	160.9	208.6	231.1	235.4
82.5°	118.8	134.8	192.1	218.1	222.5
85°	73.1	105.8	169.6	198.7	205.3
87.5°	34.3	82.2	150.0	181.8	189.5
90°	11.9	68.4	136.4	170.1	179.5
92.5°	29.1	65.9	131.8	164.8	173.6
95°	55.7	68.8	129.2	163.5	170.1
97.5°	79.5	80.2	133.7	164.6	171.2
100°	94.4	91.6	139.1	168.2	175.5
102.5°	109.3	104.8	146.3	174.2	180.9
105°	131.7	128.9	159.3	186.2	192.8
107.5°	156.7	154.7	178.9	202.8	208.0
110°	173.4	174.3	194.4	215.4	221.2

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	193.1	193.9	211.7	229.1	234.9
115°	220.4	223.4	239.9	254.1	257.7
117.5°	248.7	254.0	268.6	280.5	284.0
120°	269.6	275.5	288.3	299.6	302.5
122.5°	289.3	295.2	309.2	320.4	323.3
125°	319.5	327.6	341.2	351.7	354.6
127.5°	350.4	359.9	372.4	383.0	386.8
130°	372.5	382.0	392.6	403.9	408.3
132.5°	391.6	401.1	411.7	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)