

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: P644331

Luminaire Tested: CRQ4DIP-SR4F0-50D125U840-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644331  
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-SR4F0-50D125U840-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

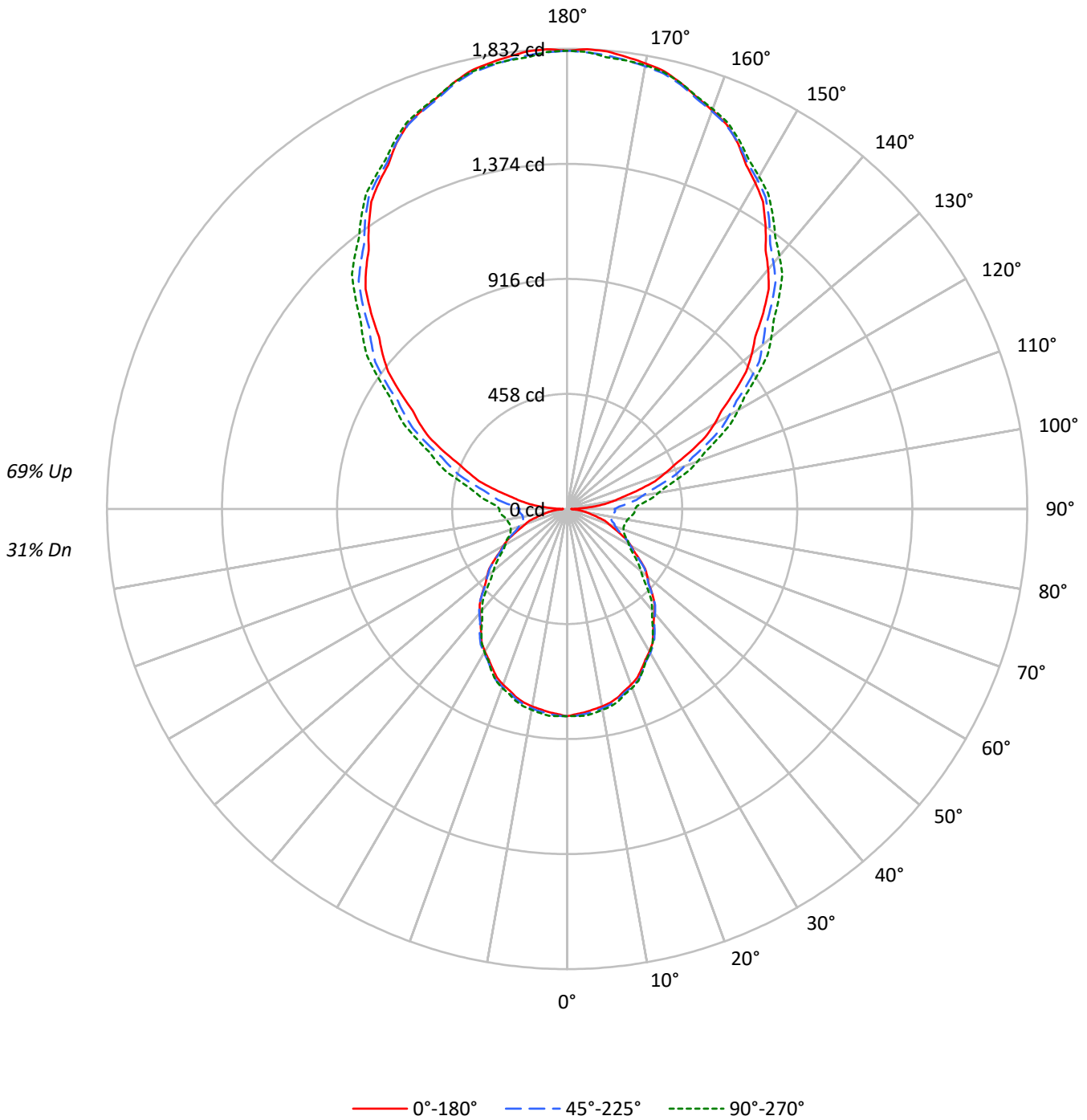
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7515.0 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: Semi-Indirect

Input Watts (W): 52.5  
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	103	103	103	103	92	92	92	92	73	73	73		55	55	55		38	38	38	31
1	93	88	84	80	83	79	76	73	62	60	58		47	45	44		33	32	31	24
2	84	77	70	65	75	69	64	59	54	51	47		41	38	36		28	27	26	20
3	77	67	60	54	68	61	54	49	48	43	40		36	33	31		25	23	22	17
4	70	59	52	46	63	54	47	42	42	38	34		32	29	26		22	20	19	14
5	64	53	45	39	57	48	41	36	38	33	29		29	25	23		20	18	16	13
6	59	47	39	34	53	43	36	31	34	29	25		26	22	20		18	16	14	11
7	55	43	35	29	49	38	32	27	31	26	22		24	20	17		17	14	13	10
8	51	39	31	26	45	35	28	24	28	23	19		22	18	15		15	13	11	9
9	47	35	28	23	42	32	25	21	26	21	17		20	16	14		14	12	10	8
10	44	32	25	20	39	29	23	19	23	19	16		18	15	12		13	11	9	7

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

	0°	45°	90°
0°	13322	13322	13322
5°	13070	11763	11398
10°	12899	10491	9846
15°	12709	9395	8612
20°	12419	8429	7532
25°	12031	7508	6564
30°	11651	6673	5698
35°	11133	5891	4890
40°	10651	5126	4146
45°	10096	4408	3459
50°	9505	3771	2838
55°	8882	3163	2387
60°	8288	2635	2054
65°	7555	2223	1840
70°	6849	1910	1735
75°	5991	1770	1744
80°	5001	1781	1840
85°	3653	1952	2037

**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	1.0
10°-20°	221.3	2.9
20°-30°	326.9	4.4
30°-40°	376.6	5.0
40°-50°	365.7	4.9
50°-60°	311.1	4.1
60°-70°	245.2	3.3
70°-80°	195.8	2.6
80°-90°	183.6	2.4
90°-100°	242.9	3.2
100°-110°	406.5	5.4
110°-120°	604.8	8.0
120°-130°	783.9	10.4
130°-140°	887.5	11.8
140°-150°	876.9	11.7
150°-160°	741.7	9.9
160°-170°	493.8	6.6
170°-180°	172.7	2.3
0°-30°	626.1	8.3
0°-40°	1002.7	13.3
0°-60°	1679.6	22.3
0°-90°	2304.3	30.7
90°-120°	1254.2	16.7
90°-150°	3802.4	50.6
90°-180°	5211.0	69.3
0°-180°	7515.0	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	792	784	786	791	219
25°	702	717	711	708	712	323
35°	598	613	607	596	596	374
45°	479	489	477	461	454	369
55°	353	365	349	330	327	317
65°	233	246	242	251	255	232
75°	126	141	184	224	237	135
85°	38	92	188	245	262	41
90°	17	88	189	249	269	14
95°	99	137	239	296	309	100
105°	296	316	391	442	450	316
115°	541	566	614	651	661	537
125°	812	842	882	914	922	728
135°	1104	1128	1150	1180	1193	851
145°	1377	1394	1402	1412	1427	860
155°	1607	1617	1609	1612	1621	738
165°	1755	1762	1749	1743	1755	495
175°	1828	1836	1813	1805	1805	174
180°	1824	1824	1824	1824	1824	

TEST NUMBER: P644331

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**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	823.9	824.2	825.1
5°	812.3	827.1	819.3	820.6	826.3
7.5°	804.8	820.0	813.5	813.1	819.7
10°	798.3	812.0	806.1	806.6	812.3
12.5°	789.9	805.7	797.1	799.1	804.8
15°	777.3	792.5	783.9	785.6	791.3
17.5°	758.7	772.9	765.7	765.8	771.5
20°	744.7	758.0	753.6	751.8	757.5
22.5°	727.9	742.1	738.7	734.1	740.7
25°	701.6	716.8	710.9	707.5	712.1
27.5°	675.5	690.7	682.2	676.5	679.9
30°	655.0	669.0	662.3	655.0	658.5
32.5°	632.6	648.1	639.9	631.7	633.3
35°	597.8	612.6	607.2	595.5	595.5
37.5°	565.0	578.5	569.0	557.2	554.7
40°	540.7	555.2	543.8	530.2	526.8
42.5°	515.6	530.0	519.3	503.1	497.9
45°	479.0	489.2	477.4	461.3	454.5
47.5°	441.2	453.2	437.6	419.4	411.2
50°	416.0	427.4	413.7	391.4	382.3
52.5°	391.8	402.9	387.0	365.0	358.3
55°	353.1	365.2	348.8	329.7	327.0
57.5°	317.0	328.9	312.5	303.6	299.8
60°	293.7	304.7	289.8	286.2	283.9
62.5°	267.6	280.1	267.7	271.6	272.3
65°	233.1	245.6	242.0	250.9	254.7
67.5°	200.7	212.0	217.6	237.4	244.6
70°	178.3	189.7	204.2	230.0	238.7
72.5°	157.8	169.8	196.4	226.5	236.1
75°	125.9	141.0	184.4	223.8	236.6
77.5°	97.9	116.5	179.3	225.6	240.0
80°	79.2	105.8	179.2	228.4	244.3
82.5°	62.5	96.9	180.4	235.2	251.1
85°	38.5	91.9	188.0	245.4	262.4
87.5°	20.2	89.8	191.3	250.1	269.3
90°	17.1	87.6	189.1	248.9	269.0
92.5°	47.1	102.4	206.5	264.5	279.5
95°	98.8	137.4	239.4	296.3	308.8
97.5°	151.5	181.2	277.6	331.1	343.1
100°	190.2	214.4	306.4	358.9	368.8
102.5°	232.7	252.3	339.9	389.3	401.3
105°	296.3	316.0	391.2	442.5	450.5
107.5°	367.0	387.6	452.2	501.3	510.4
110°	414.1	438.7	496.2	541.3	552.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	465.2	489.8	541.1	584.4	595.0
115°	540.7	566.5	614.3	651.3	660.8
117.5°	619.9	646.2	690.0	725.4	734.5
120°	677.8	702.1	744.8	778.7	786.3
122.5°	729.0	756.8	799.1	832.9	840.5
125°	812.2	842.1	882.3	914.3	921.8
127.5°	898.0	926.2	963.3	995.7	1005.5
130°	959.0	983.6	1016.0	1049.9	1061.3
132.5°	1016.0	1040.7	1069.3	1102.6	1115.5
135°	1103.9	1128.5	1150.4	1179.7	1193.0
137.5°	1187.9	1211.8	1228.6	1251.8	1268.5
140°	1245.3	1266.1	1278.2	1299.8	1315.0
142.5°	1297.9	1318.8	1327.8	1346.3	1361.5
145°	1376.9	1394.0	1402.1	1412.1	1427.3
147.5°	1450.9	1467.6	1471.1	1479.8	1489.3
150°	1499.0	1514.1	1514.4	1518.5	1528.0
152.5°	1543.9	1557.5	1553.2	1555.8	1566.7
155°	1607.4	1616.9	1609.3	1611.5	1621.0
157.5°	1657.8	1667.2	1655.4	1659.1	1666.7
160°	1688.7	1698.2	1684.9	1687.0	1694.6
162.5°	1718.2	1724.6	1712.8	1710.3	1720.9
165°	1754.6	1762.2	1748.8	1743.2	1754.6
167.5°	1785.6	1793.1	1775.5	1769.6	1780.9
170°	1801.1	1808.6	1789.4	1782.0	1793.3
172.5°	1815.0	1822.6	1801.8	1792.7	1801.1
175°	1828.2	1835.8	1812.7	1804.9	1804.9
177.5°	1832.1	1836.6	1819.7	1812.1	1821.2
180°	1824.3	1824.3	1824.3	1824.3	1824.3

(END OF REPORT)