

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: P644230

Luminaire Tested: CRQ4DIP-SR4F0-100D50U940-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644230  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-100D50U940-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 500 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

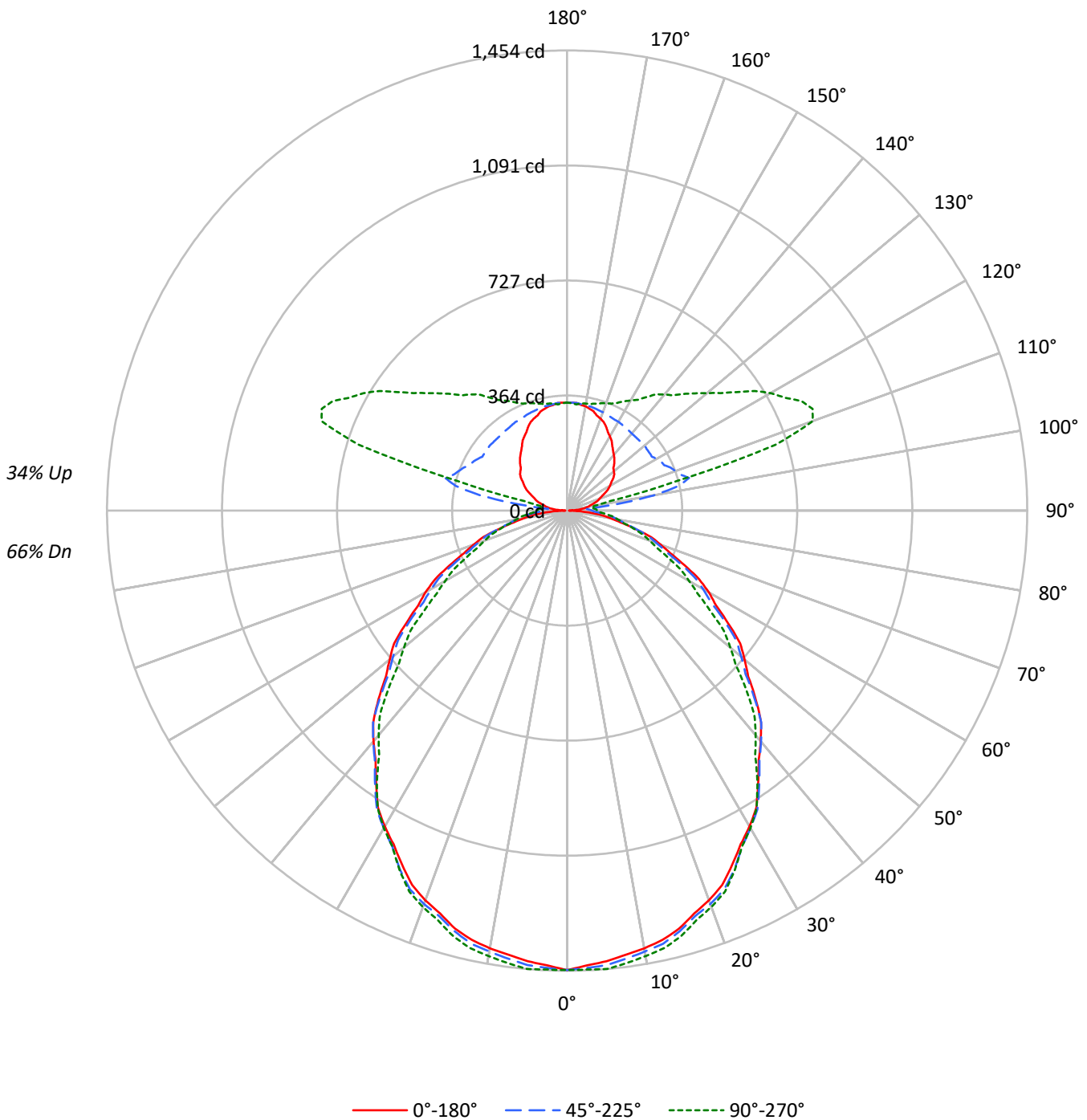
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5576.0 lumens  
Efficiency: N/A  
Efficacy: 125.3 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 (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	50	30	10	0	
RCR																						
0	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66				
1	101	97	92	89	95	91	87	84	81	78	75	71	69	67	62	61	59	55				
2	92	84	78	73	86	80	74	69	71	66	63	62	59	56	55	52	50	46				
3	84	74	67	61	79	70	63	58	62	57	53	55	51	48	49	45	43	39				
4	77	66	58	52	72	62	55	49	56	50	45	49	45	41	44	40	37	34				
5	71	59	51	44	66	56	48	43	50	44	39	45	40	36	39	35	32	29				
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	29	26				
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25	23				
8	56	44	36	30	53	42	34	29	38	31	27	34	29	25	30	26	23	21				
9	53	40	32	27	49	38	31	26	35	29	24	31	26	23	28	24	21	19				
10	49	37	29	25	46	35	28	24	32	26	22	29	24	20	26	22	19	17				

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

	0°	45°	90°
0°	23439	23439	23439
5°	22995	20694	20052
10°	22693	18411	17321
15°	22361	16489	15152
20°	21849	14792	13252
25°	21167	13208	11548
30°	20497	11672	10024
35°	19588	10265	8603
40°	18742	8986	7294
45°	17762	7723	6086
50°	16726	6541	4993
55°	15629	5504	4026
60°	14581	4512	3218
65°	13292	3597	2548
70°	12050	2819	2012
75°	10535	2165	1587
80°	8802	1610	1235
85°	6423	1171	939

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 17762 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.0	2.5
10°-20°	388.8	7.0
20°-30°	574.0	10.3
30°-40°	659.9	11.8
40°-50°	640.1	11.5
50°-60°	535.9	9.6
60°-70°	386.1	6.9
70°-80°	235.9	4.2
80°-90°	115.4	2.1
90°-100°	87.3	1.6
100°-110°	315.4	5.7
110°-120°	411.6	7.4
120°-130°	332.7	6.0
130°-140°	266.0	4.8
140°-150°	209.4	3.8
150°-160°	153.1	2.7
160°-170°	95.1	1.7
170°-180°	32.4	0.6
0°-30°	1099.8	19.7
0°-40°	1759.7	31.6
0°-60°	2935.7	52.6
0°-90°	3673.0	65.9
90°-120°	814.2	14.6
90°-150°	1622.3	29.1
90°-180°	1903.0	34.1
0°-180°	5576.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1452	1452	1452	1452	1452	
5°	1429	1455	1441	1444	1454	136
15°	1368	1388	1376	1382	1392	385
25°	1234	1254	1251	1245	1253	569
35°	1052	1068	1058	1048	1048	659
45°	843	851	836	812	800	650
55°	621	629	607	570	552	557
65°	410	412	392	363	353	408
75°	221	221	226	219	215	237
85°	68	82	113	121	121	71
90°	6	42	78	93	95	8
95°	38	50	60	77	83	37
105°	87	111	399	515	351	92
115°	132	150	339	700	817	131
125°	178	197	318	552	652	158
135°	210	233	318	454	522	162
145°	249	270	320	396	438	156
155°	292	302	326	359	376	134
165°	324	328	335	344	350	91
175°	341	343	341	339	337	32
180°	341	341	341	341	341	

TEST NUMBER: P644230

CATALOG NUMBER: CRQ4DIP-SR4F0-100D50U940-FLLOOB-1DUDD-WW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1451.7	1451.7	1451.7	1451.7	1451.7
2.5°	1438.5	1459.4	1446.7	1450.1	1451.7
5°	1429.1	1455.2	1441.4	1443.7	1453.7
7.5°	1416.0	1440.0	1427.9	1430.6	1442.2
10°	1404.5	1428.6	1414.7	1419.1	1429.1
12.5°	1389.7	1412.2	1401.6	1406.0	1416.0
15°	1367.6	1387.6	1375.8	1382.2	1392.2
17.5°	1334.8	1356.4	1343.8	1347.3	1357.3
20°	1310.2	1330.2	1322.5	1322.7	1332.7
22.5°	1280.7	1302.3	1296.2	1291.6	1303.2
25°	1234.3	1254.4	1250.7	1244.8	1252.8
27.5°	1188.4	1203.2	1196.2	1190.2	1196.2
30°	1152.3	1170.3	1158.5	1152.4	1158.5
32.5°	1112.9	1131.0	1119.1	1111.4	1114.2
35°	1051.8	1067.9	1058.0	1047.7	1047.7
37.5°	994.0	1004.4	997.7	980.4	976.0
40°	951.4	963.4	953.4	932.8	926.8
42.5°	907.1	919.1	907.5	885.1	875.9
45°	842.7	850.7	836.5	811.7	799.6
47.5°	776.3	784.7	765.2	737.8	723.4
50°	732.0	742.0	717.6	688.6	672.5
52.5°	689.3	696.1	673.3	639.4	625.0
55°	621.3	629.3	606.9	569.6	551.5
57.5°	557.7	565.3	538.8	503.2	489.2
60°	516.7	522.7	496.2	459.0	444.9
62.5°	470.8	476.8	451.9	419.6	405.6
65°	410.1	412.1	391.6	362.7	352.7
67.5°	353.1	353.1	335.8	314.3	306.3
70°	313.7	313.7	301.4	284.8	276.8
72.5°	277.6	276.0	268.6	257.0	250.6
75°	221.4	221.4	225.5	219.3	215.3
77.5°	172.2	169.0	186.6	185.7	183.7
80°	139.4	139.4	162.0	166.0	164.0
82.5°	109.9	113.1	142.3	148.0	146.0
85°	67.7	81.7	112.8	121.0	121.0
87.5°	30.8	55.6	89.4	100.5	100.9
90°	6.2	42.3	78.1	92.6	94.6
92.5°	17.9	38.0	70.1	86.4	91.7
95°	37.7	50.4	60.2	76.9	83.1
97.5°	55.1	73.3	157.3	80.3	77.7
100°	65.4	87.0	277.8	109.5	88.3
102.5°	74.0	97.4	360.5	225.0	138.5
105°	87.0	110.7	398.7	514.7	350.9
107.5°	100.0	115.2	376.6	733.7	689.9
110°	108.7	123.8	364.6	767.0	825.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	119.0	134.1	354.3	742.3	839.6
115°	132.4	149.5	338.9	699.9	817.4
117.5°	145.8	164.9	334.6	652.5	773.3
120°	156.2	175.2	326.1	616.6	742.5
122.5°	164.8	183.9	317.5	587.2	703.0
125°	177.7	196.8	317.5	551.6	652.4
127.5°	187.7	209.6	317.9	510.4	609.9
130°	192.9	218.1	319.6	482.8	577.2
132.5°	198.2	223.4	318.0	470.4	548.1
135°	210.3	233.4	317.6	454.3	521.5
137.5°	221.0	245.8	317.6	436.5	494.0
140°	229.6	252.7	317.6	426.1	478.5
142.5°	238.2	259.6	319.3	414.0	463.1
145°	248.9	269.9	319.7	395.8	437.8
147.5°	261.8	280.3	322.3	382.7	415.0
150°	270.4	287.2	324.0	374.0	401.3
152.5°	279.0	294.1	324.0	367.0	389.3
155°	291.8	302.3	326.2	358.7	375.5
157.5°	302.1	312.2	328.8	353.5	365.7
160°	309.0	317.4	330.5	350.0	360.5
162.5°	314.2	322.6	332.2	348.2	355.4
165°	324.0	328.2	334.8	343.5	349.8
167.5°	329.6	333.4	336.9	341.3	345.1
170°	334.8	336.9	336.9	341.2	343.3
172.5°	336.5	340.3	338.6	339.5	341.6
175°	341.2	343.3	341.2	339.0	336.9
177.5°	341.2	342.9	341.2	341.2	339.5
180°	341.2	341.2	341.2	341.2	341.2

(END OF REPORT)