

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: P644333

Luminaire Tested: CRQ4DIP-SR4F0-50D125U930-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644333  
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-SR4F0-50D125U930-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: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

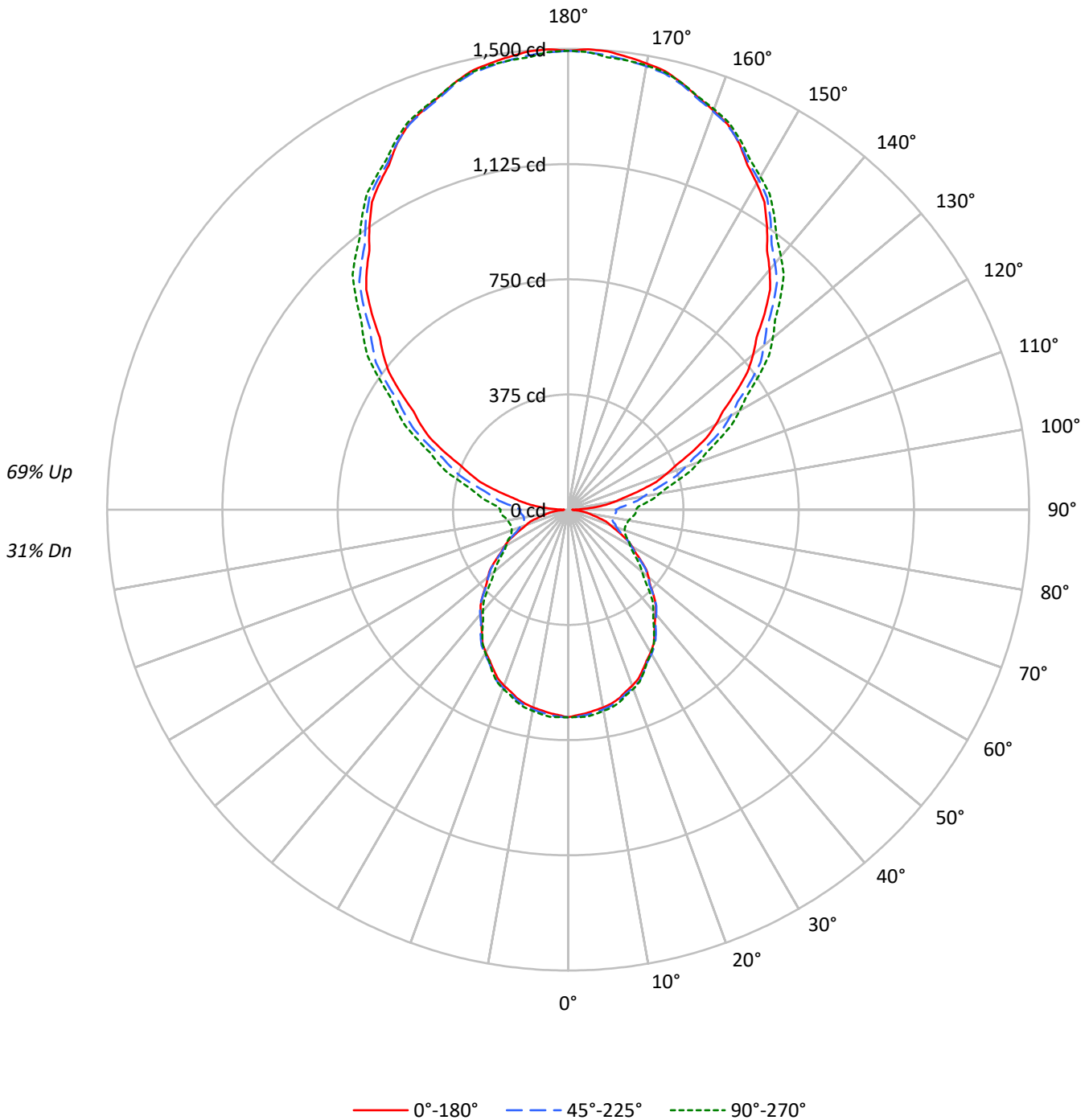
Lumens per Lamp: N/A  
Luminaire Lumens: 6153.1 lumens  
Efficiency: N/A  
Efficacy: 117.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Indirect

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°	10908	10908	10908
5°	10702	9631	9332
10°	10561	8589	8061
15°	10407	7693	7051
20°	10168	6901	6167
25°	9850	6147	5374
30°	9540	5464	4665
35°	9116	4823	4004
40°	8723	4197	3394
45°	8266	3609	2832
50°	7785	3087	2324
55°	7272	2590	1955
60°	6787	2158	1681
65°	6184	1820	1506
70°	5608	1564	1420
75°	4906	1449	1428
80°	4098	1458	1507
85°	2989	1599	1669

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8266 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.8	1.0
10°-20°	181.2	2.9
20°-30°	267.7	4.4
30°-40°	308.4	5.0
40°-50°	299.5	4.9
50°-60°	254.7	4.1
60°-70°	200.8	3.3
70°-80°	160.3	2.6
80°-90°	150.4	2.4
90°-100°	198.9	3.2
100°-110°	332.8	5.4
110°-120°	495.2	8.0
120°-130°	641.8	10.4
130°-140°	726.6	11.8
140°-150°	718.0	11.7
150°-160°	607.3	9.9
160°-170°	404.4	6.6
170°-180°	141.4	2.3
0°-30°	512.7	8.3
0°-40°	821.0	13.3
0°-60°	1375.2	22.3
0°-90°	1886.7	30.7
90°-120°	1026.9	16.7
90°-150°	3113.3	50.6
90°-180°	4266.0	69.3
0°-180°	6153.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	676	676	676	676	676	
5°	665	677	671	672	676	63
15°	636	649	642	643	648	179
25°	574	587	582	579	583	265
35°	490	502	497	488	488	307
45°	392	401	391	378	372	302
55°	289	299	286	270	268	259
65°	191	201	198	205	208	190
75°	103	116	151	183	194	110
85°	32	75	154	201	215	34
90°	14	72	155	204	220	11
95°	81	112	196	243	253	82
105°	243	259	320	362	369	259
115°	443	464	503	533	541	440
125°	665	690	722	749	755	596
135°	904	924	942	966	977	696
145°	1127	1141	1148	1156	1169	704
155°	1316	1324	1318	1320	1327	604
165°	1437	1443	1432	1427	1437	405
175°	1497	1503	1484	1478	1478	142
180°	1494	1494	1494	1494	1494	



TEST NUMBER: P644333

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	675.6	675.6	675.6	675.6	675.6
2.5°	669.5	679.2	674.6	674.8	675.6
5°	665.1	677.2	670.8	671.9	676.5
7.5°	659.0	671.4	666.1	665.8	671.2
10°	653.6	664.8	660.0	660.4	665.1
12.5°	646.8	659.7	652.6	654.3	659.0
15°	636.5	648.9	641.9	643.2	647.9
17.5°	621.2	632.8	627.0	627.0	631.7
20°	609.7	620.6	617.0	615.6	620.2
22.5°	596.0	607.6	604.8	601.1	606.5
25°	574.4	586.9	582.1	579.3	583.0
27.5°	553.1	565.5	558.6	553.9	556.7
30°	536.3	547.8	542.3	536.3	539.1
32.5°	517.9	530.7	524.0	517.2	518.5
35°	489.5	501.6	497.1	487.6	487.6
37.5°	462.6	473.7	465.9	456.3	454.2
40°	442.8	454.6	445.3	434.1	431.3
42.5°	422.1	433.9	425.2	411.9	407.6
45°	392.2	400.6	390.9	377.7	372.1
47.5°	361.3	371.1	358.3	343.4	336.6
50°	340.7	350.0	338.7	320.4	313.0
52.5°	320.8	329.9	316.8	298.9	293.4
55°	289.1	299.1	285.6	270.0	267.8
57.5°	259.5	269.3	255.8	248.6	245.4
60°	240.5	249.5	237.3	234.3	232.4
62.5°	219.1	229.3	219.2	222.4	223.0
65°	190.8	201.1	198.1	205.4	208.5
67.5°	164.3	173.6	178.2	194.4	200.3
70°	146.0	155.3	167.2	188.3	195.4
72.5°	129.2	139.0	160.8	185.5	193.4
75°	103.1	115.5	150.9	183.2	193.7
77.5°	80.2	95.4	146.8	184.7	196.5
80°	64.9	86.6	146.7	187.0	200.0
82.5°	51.1	79.3	147.7	192.6	205.6
85°	31.5	75.2	154.0	200.9	214.9
87.5°	16.5	73.5	156.7	204.8	220.5
90°	14.0	71.7	154.9	203.8	220.2
92.5°	38.6	83.9	169.1	216.6	228.8
95°	80.9	112.5	196.0	242.6	252.8
97.5°	124.0	148.3	227.3	271.1	280.9
100°	155.7	175.6	250.9	293.9	302.0
102.5°	190.5	206.6	278.3	318.8	328.6
105°	242.6	258.7	320.3	362.3	368.9
107.5°	300.5	317.4	370.2	410.5	417.9
110°	339.0	359.2	406.3	443.2	451.9



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CATALOG NUMBER: CRQ4DIP-SR4F0-50D125U930-FLLFLL-1DUDD-WW

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	380.9	401.0	443.0	478.5	487.2
115°	442.7	463.8	503.0	533.3	541.0
117.5°	507.6	529.1	565.0	594.0	601.4
120°	555.0	574.8	609.9	637.6	643.8
122.5°	596.9	619.7	654.3	682.0	688.2
125°	665.0	689.5	722.4	748.6	754.8
127.5°	735.3	758.4	788.7	815.2	823.3
130°	785.2	805.4	831.8	859.6	869.0
132.5°	831.9	852.1	875.5	902.8	913.3
135°	903.8	924.0	941.9	965.9	976.8
137.5°	972.7	992.2	1006.0	1025.0	1038.6
140°	1019.6	1036.6	1046.5	1064.3	1076.7
142.5°	1062.7	1079.8	1087.1	1102.3	1114.7
145°	1127.4	1141.4	1148.0	1156.2	1168.6
147.5°	1188.0	1201.6	1204.5	1211.6	1219.4
150°	1227.3	1239.7	1240.0	1243.3	1251.1
152.5°	1264.1	1275.3	1271.7	1273.8	1282.8
155°	1316.1	1323.9	1317.7	1319.5	1327.2
157.5°	1357.3	1365.1	1355.4	1358.4	1364.6
160°	1382.7	1390.5	1379.5	1381.3	1387.5
162.5°	1406.8	1412.1	1402.4	1400.4	1409.0
165°	1436.6	1442.8	1431.9	1427.3	1436.6
167.5°	1462.0	1468.2	1453.7	1448.9	1458.2
170°	1474.7	1480.9	1465.2	1459.0	1468.3
172.5°	1486.1	1492.3	1475.3	1467.9	1474.7
175°	1496.9	1503.1	1484.2	1477.9	1477.9
177.5°	1500.1	1503.8	1489.9	1483.7	1491.2
180°	1493.7	1493.7	1493.7	1493.7	1493.7

(END OF REPORT)