

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: P644249

Luminaire Tested: CRQ4DIP-SR4F0-125D100U930-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644249  
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-SR4F0-125D100U930-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

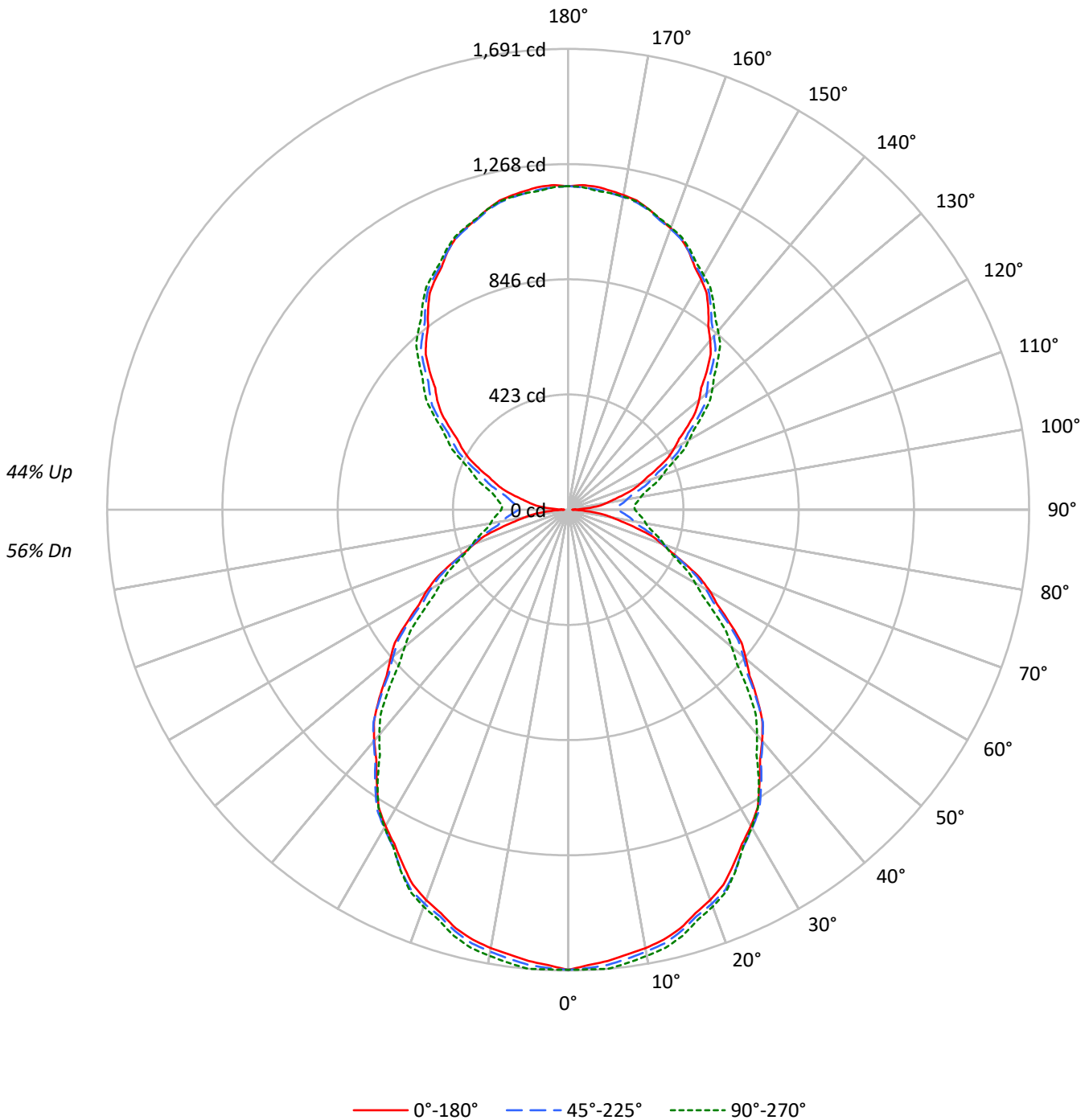
Lumens per Lamp: N/A  
Luminaire Lumens: 7858.7 lumens  
Efficiency: N/A  
Efficacy: 113.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

Input Watts (W): 69  
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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56				
1	99	94	90	86	91	87	84	80	75	72	70	64	62	60	54	52	51	46				
2	90	82	75	70	83	76	71	66	66	62	58	56	53	50	47	45	43	38				
3	82	72	64	58	76	67	60	55	58	53	49	50	46	42	42	39	36	33				
4	75	64	56	50	69	60	52	47	52	46	42	44	40	36	37	34	31	28				
5	69	57	49	43	64	53	46	40	46	40	36	40	35	32	34	30	27	24				
6	63	51	43	37	59	48	41	35	42	36	31	36	31	28	31	27	24	21				
7	59	46	38	32	54	43	36	31	38	32	28	33	28	25	28	24	22	19				
8	55	42	34	29	51	40	32	27	35	29	25	30	25	22	26	22	19	17				
9	51	38	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	15				
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14				

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

	0°	45°	90°
0°	27259	27259	27259
5°	26744	24068	23321
10°	26393	21431	20146
15°	26007	19192	17622
20°	25411	17218	15413
25°	24619	15361	13431
30°	23839	13599	11658
35°	22782	11976	10006
40°	21797	10463	8483
45°	20658	8994	7078
50°	19452	7642	5807
55°	18175	6425	4747
60°	16957	5293	3889
65°	15457	4300	3217
70°	14017	3479	2725
75°	12253	2870	2393
80°	10241	2436	2178
85°	7467	2200	2071

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 20658 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	159.4	2.0
10°-20°	452.4	5.8
20°-30°	668.0	8.5
30°-40°	768.5	9.8
40°-50°	745.7	9.5
50°-60°	627.5	8.0
60°-70°	465.8	5.9
70°-80°	314.5	4.0
80°-90°	210.4	2.7
90°-100°	194.1	2.5
100°-110°	277.6	3.5
110°-120°	398.1	5.1
120°-130°	512.0	6.5
130°-140°	577.7	7.4
140°-150°	570.7	7.3
150°-160°	482.7	6.1
160°-170°	321.4	4.1
170°-180°	112.4	1.4
0°-30°	1279.8	16.3
0°-40°	2048.2	26.1
0°-60°	3421.4	43.5
0°-90°	4412.2	56.1
90°-120°	869.7	11.1
90°-150°	2530.1	32.2
90°-180°	3447.0	43.9
0°-180°	7858.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1688	1688	1688	1688	1688	
5°	1662	1692	1676	1679	1691	158
15°	1591	1616	1601	1608	1619	447
25°	1436	1461	1455	1448	1457	661
35°	1223	1246	1234	1219	1219	766
45°	980	993	974	944	930	755
55°	722	737	708	666	650	648
65°	477	487	468	451	445	474
75°	258	267	299	320	325	275
85°	79	125	212	256	267	83
90°	16	89	182	230	245	15
95°	81	104	190	238	248	79
105°	209	212	263	303	311	223
115°	363	374	403	427	433	361
125°	535	551	576	595	600	479
135°	718	734	749	768	776	554
145°	896	907	912	919	929	560
155°	1046	1052	1047	1049	1055	480
165°	1142	1147	1138	1134	1142	322
175°	1190	1195	1180	1175	1175	113
180°	1187	1187	1187	1187	1187	

TEST NUMBER: P644249

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1688.3	1688.3	1688.3	1688.3	1688.3
2.5°	1673.1	1697.3	1683.6	1686.5	1688.3
5°	1662.1	1692.4	1676.4	1679.1	1690.7
7.5°	1646.8	1675.8	1661.9	1663.8	1677.4
10°	1633.5	1661.5	1646.7	1650.4	1662.1
12.5°	1616.3	1644.4	1630.4	1635.2	1646.8
15°	1590.6	1616.3	1601.4	1607.5	1619.2
17.5°	1552.4	1578.8	1564.2	1567.0	1578.6
20°	1523.8	1548.3	1539.4	1538.4	1550.0
22.5°	1489.5	1515.9	1508.8	1502.2	1515.7
25°	1435.6	1461.3	1454.6	1447.7	1457.0
27.5°	1382.1	1403.8	1392.7	1384.2	1391.2
30°	1340.2	1363.6	1349.8	1340.3	1347.3
32.5°	1294.4	1318.8	1304.1	1292.6	1295.8
35°	1223.3	1245.7	1234.3	1218.6	1218.6
37.5°	1156.1	1173.1	1161.6	1140.2	1135.1
40°	1106.5	1125.4	1110.1	1084.9	1077.9
42.5°	1055.0	1073.9	1057.7	1029.4	1018.7
45°	980.1	993.1	974.2	944.0	930.0
47.5°	902.8	917.3	891.7	858.1	841.3
50°	851.3	866.7	838.4	800.8	782.2
52.5°	801.7	814.3	785.9	744.7	728.9
55°	722.5	736.8	708.4	666.3	650.3
57.5°	648.6	662.4	630.7	596.7	583.1
60°	600.9	612.9	582.1	550.3	537.6
62.5°	547.5	560.4	532.6	509.6	498.9
65°	476.9	486.7	468.1	450.9	445.4
67.5°	410.6	418.0	408.0	403.8	402.1
70°	364.9	372.2	372.0	375.6	374.9
72.5°	322.9	329.4	340.9	351.2	352.4
75°	257.5	267.4	298.9	319.5	324.7
77.5°	200.3	209.9	264.6	294.1	301.9
80°	162.2	179.4	245.1	280.3	289.1
82.5°	127.8	152.7	230.3	270.4	279.2
85°	78.7	124.6	211.8	255.6	266.7
87.5°	37.5	102.2	194.8	241.5	254.3
90°	16.0	88.9	181.6	230.3	245.0
92.5°	40.7	91.1	182.5	230.1	242.7
95°	80.6	104.1	190.0	238.4	248.1
97.5°	118.1	127.5	205.4	249.7	259.4
100°	143.3	147.9	218.9	261.3	270.9
102.5°	169.6	171.3	235.5	275.9	285.6
105°	209.1	212.4	262.7	302.7	311.1
107.5°	253.1	257.3	298.8	335.4	342.9
110°	282.5	290.5	326.1	358.8	367.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	315.7	323.8	355.4	384.3	392.7
115°	363.3	373.7	403.0	427.1	433.3
117.5°	412.8	425.5	451.9	473.4	479.3
120°	449.2	461.8	486.3	506.7	511.7
122.5°	482.5	496.2	521.6	542.0	547.0
125°	535.1	551.4	575.8	595.0	599.9
127.5°	588.9	606.0	628.5	647.9	654.3
130°	627.3	643.4	662.8	683.2	690.6
132.5°	661.8	677.9	696.1	717.5	725.9
135°	718.4	734.4	748.6	767.7	776.3
137.5°	773.1	788.6	799.5	814.6	825.5
140°	810.4	823.9	831.8	845.9	855.7
142.5°	844.6	858.2	864.0	876.1	886.0
145°	896.1	907.1	912.4	919.0	928.8
147.5°	944.2	955.0	957.3	963.0	969.2
150°	975.5	985.3	985.5	988.2	994.4
152.5°	1004.7	1013.6	1010.7	1012.4	1019.6
155°	1046.0	1052.2	1047.3	1048.7	1054.8
157.5°	1078.8	1085.0	1077.3	1079.7	1084.6
160°	1099.0	1105.1	1096.4	1097.8	1102.7
162.5°	1118.1	1122.3	1114.6	1113.0	1119.9
165°	1141.8	1146.7	1138.0	1134.4	1141.8
167.5°	1162.0	1166.9	1155.4	1151.6	1158.9
170°	1172.1	1177.0	1164.5	1159.6	1167.0
172.5°	1181.1	1186.1	1172.6	1166.6	1172.1
175°	1189.7	1194.6	1179.6	1174.6	1174.6
177.5°	1192.2	1195.2	1184.2	1179.2	1185.2
180°	1187.2	1187.2	1187.2	1187.2	1187.2

(END OF REPORT)