

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: P644253

Luminaire Tested: CRQ4DIP-SR4F0-125D100U940-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644253  
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-SR4F0-125D100U940-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: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

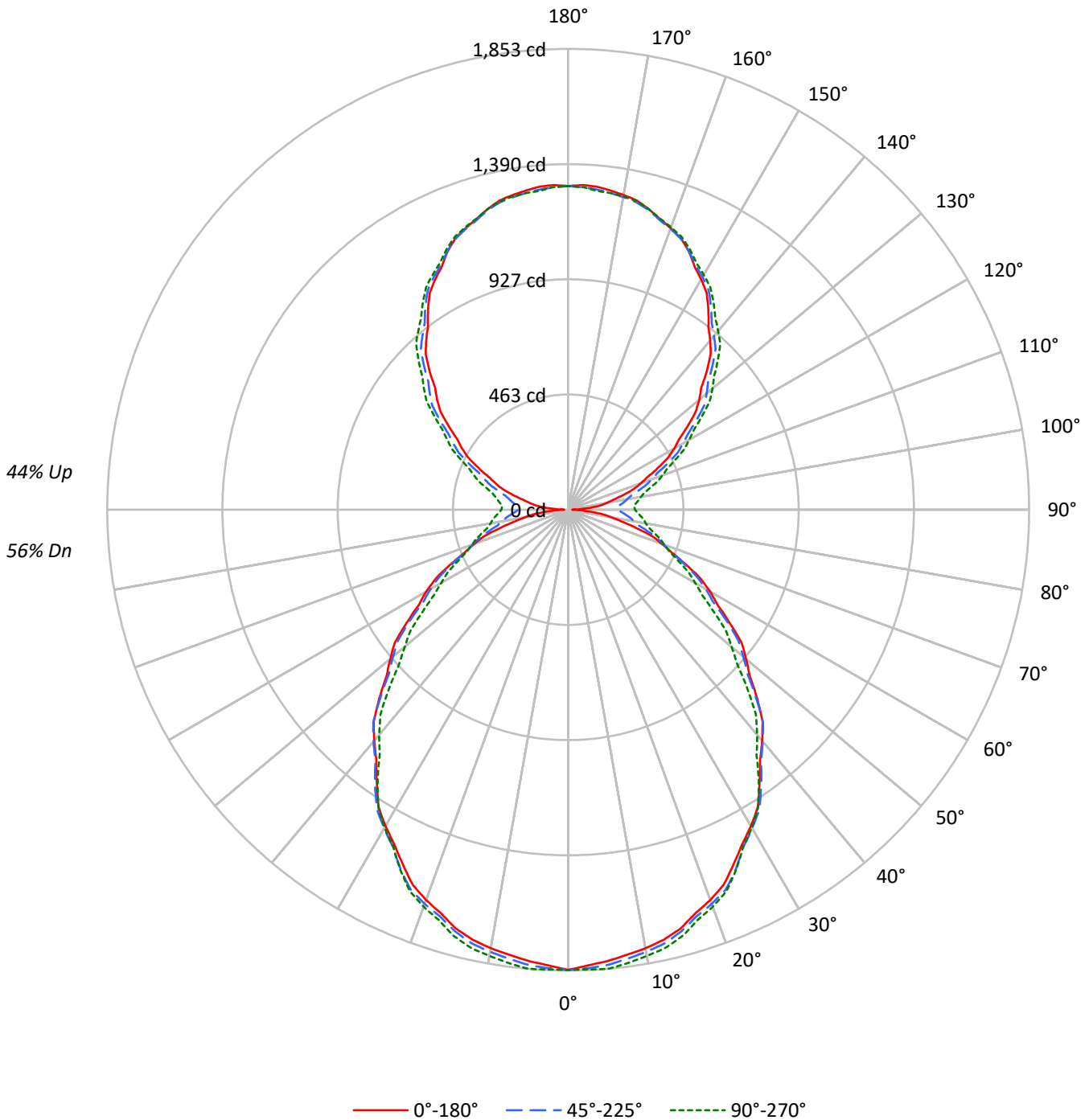
Lumens per Lamp: N/A  
Luminaire Lumens: 8613.5 lumens  
Efficiency: N/A  
Efficacy: 124.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

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

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

	0°	45°	90°
0°	29878	29878	29878
5°	29312	26380	25561
10°	28928	23488	22080
15°	28504	21036	19314
20°	27851	18871	16893
25°	26982	16837	14721
30°	26128	14906	12777
35°	24971	13125	10967
40°	23889	11468	9297
45°	22641	9859	7758
50°	21321	8376	6364
55°	19921	7041	5202
60°	18585	5801	4263
65°	16942	4712	3526
70°	15361	3813	2987
75°	13433	3145	2623
80°	11220	2670	2387
85°	8188	2411	2269

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 22641 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.7	2.0
10°-20°	495.8	5.8
20°-30°	732.1	8.5
30°-40°	842.3	9.8
40°-50°	817.3	9.5
50°-60°	687.8	8.0
60°-70°	510.5	5.9
70°-80°	344.7	4.0
80°-90°	230.6	2.7
90°-100°	212.7	2.5
100°-110°	304.2	3.5
110°-120°	436.3	5.1
120°-130°	561.1	6.5
130°-140°	633.2	7.4
140°-150°	625.5	7.3
150°-160°	529.0	6.1
160°-170°	352.2	4.1
170°-180°	123.2	1.4
0°-30°	1402.7	16.3
0°-40°	2244.9	26.1
0°-60°	3750.0	43.5
0°-90°	4835.9	56.1
90°-120°	953.3	11.1
90°-150°	2773.1	32.2
90°-180°	3778.0	43.9
0°-180°	8613.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1850	1850	1850	1850	1850	
5°	1822	1855	1837	1840	1853	173
15°	1743	1772	1755	1762	1775	490
25°	1573	1602	1594	1587	1597	725
35°	1341	1365	1353	1336	1336	840
45°	1074	1088	1068	1035	1019	828
55°	792	808	776	730	713	710
65°	523	533	513	494	488	520
75°	282	293	328	350	356	302
85°	86	137	232	280	292	91
90°	18	97	199	252	268	17
95°	88	114	208	261	272	87
105°	229	233	288	332	341	244
115°	398	410	442	468	475	395
125°	586	604	631	652	658	525
135°	787	805	820	841	851	607
145°	982	994	1000	1007	1018	613
155°	1146	1153	1148	1149	1156	526
165°	1252	1257	1247	1243	1252	353
175°	1304	1309	1293	1287	1287	124
180°	1301	1301	1301	1301	1301	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1850.5	1850.5	1850.5	1850.5	1850.5
2.5°	1833.7	1860.3	1845.3	1848.4	1850.5
5°	1821.7	1854.9	1837.4	1840.3	1853.1
7.5°	1805.0	1836.7	1821.5	1823.6	1838.5
10°	1790.4	1821.0	1804.8	1808.9	1821.7
12.5°	1771.5	1802.3	1787.0	1792.2	1805.0
15°	1743.3	1771.6	1755.2	1761.9	1774.7
17.5°	1701.5	1730.4	1714.4	1717.5	1730.2
20°	1670.1	1697.0	1687.2	1686.1	1698.9
22.5°	1632.5	1661.4	1653.7	1646.4	1661.2
25°	1573.4	1601.7	1594.3	1586.7	1597.0
27.5°	1514.9	1538.7	1526.5	1517.1	1524.8
30°	1468.9	1494.6	1479.5	1469.1	1476.7
32.5°	1418.7	1445.5	1429.3	1416.7	1420.3
35°	1340.8	1365.3	1352.8	1335.6	1335.6
37.5°	1267.1	1285.8	1273.2	1249.7	1244.1
40°	1212.7	1233.5	1216.7	1189.0	1181.4
42.5°	1156.3	1177.0	1159.3	1128.3	1116.6
45°	1074.2	1088.5	1067.8	1034.7	1019.3
47.5°	989.5	1005.4	977.4	940.5	922.1
50°	933.1	949.9	918.9	877.7	857.3
52.5°	878.7	892.5	861.4	816.2	798.9
55°	791.9	807.6	776.4	730.3	712.7
57.5°	710.9	726.0	691.3	654.0	639.1
60°	658.6	671.7	638.0	603.1	589.3
62.5°	600.1	614.2	583.8	558.5	546.8
65°	522.7	533.4	513.0	494.3	488.2
67.5°	450.1	458.2	447.2	442.6	440.8
70°	399.9	408.0	407.7	411.6	410.9
72.5°	353.9	361.0	373.6	385.0	386.2
75°	282.3	293.1	327.6	350.2	355.9
77.5°	219.5	230.0	290.1	322.4	330.9
80°	177.7	196.6	268.6	307.2	316.8
82.5°	140.1	167.4	252.4	296.4	306.0
85°	86.3	136.6	232.2	280.2	292.3
87.5°	41.1	112.0	213.5	264.7	278.7
90°	17.5	97.4	199.1	252.4	268.5
92.5°	44.7	99.8	200.0	252.2	266.0
95°	88.3	114.1	208.2	261.3	271.9
97.5°	129.4	139.8	225.1	273.7	284.3
100°	157.1	162.1	239.9	286.4	296.9
102.5°	185.9	187.7	258.1	302.4	313.0
105°	229.2	232.8	287.9	331.8	340.9
107.5°	277.4	282.1	327.5	367.6	375.8
110°	309.6	318.4	357.5	393.3	402.6

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	346.1	354.9	389.5	421.2	430.5
115°	398.2	409.5	441.7	468.1	474.9
117.5°	452.5	466.4	495.3	518.8	525.3
120°	492.4	506.2	533.0	555.4	560.8
122.5°	528.8	543.8	571.7	594.1	599.5
125°	586.5	604.3	631.1	652.1	657.5
127.5°	645.5	664.2	688.8	710.2	717.2
130°	687.6	705.2	726.4	748.9	757.0
132.5°	725.4	743.0	763.0	786.4	795.6
135°	787.3	804.9	820.5	841.4	850.9
137.5°	847.3	864.3	876.3	892.9	904.8
140°	888.2	903.0	911.7	927.1	937.9
142.5°	925.8	940.6	947.0	960.3	971.1
145°	982.1	994.3	1000.1	1007.2	1018.0
147.5°	1034.9	1046.8	1049.2	1055.5	1062.2
150°	1069.1	1079.9	1080.2	1083.1	1089.9
152.5°	1101.2	1110.9	1107.8	1109.6	1117.5
155°	1146.5	1153.2	1147.9	1149.4	1156.2
157.5°	1182.4	1189.2	1180.7	1183.4	1188.8
160°	1204.5	1211.3	1201.7	1203.2	1208.6
162.5°	1225.5	1230.1	1221.6	1219.9	1227.4
165°	1251.5	1256.9	1247.3	1243.4	1251.5
167.5°	1273.6	1279.0	1266.4	1262.1	1270.3
170°	1284.6	1290.0	1276.3	1271.0	1279.1
172.5°	1294.6	1300.0	1285.2	1278.7	1284.6
175°	1304.0	1309.4	1292.9	1287.4	1287.4
177.5°	1306.7	1310.0	1297.9	1292.5	1299.0
180°	1301.2	1301.2	1301.2	1301.2	1301.2

(END OF REPORT)