

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: P644209

Luminaire Tested: CRQ4DIP-SR4F0-100D25U835-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644209  
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-SR4F0-100D25U835-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 250 LUMENS PER FOOT  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

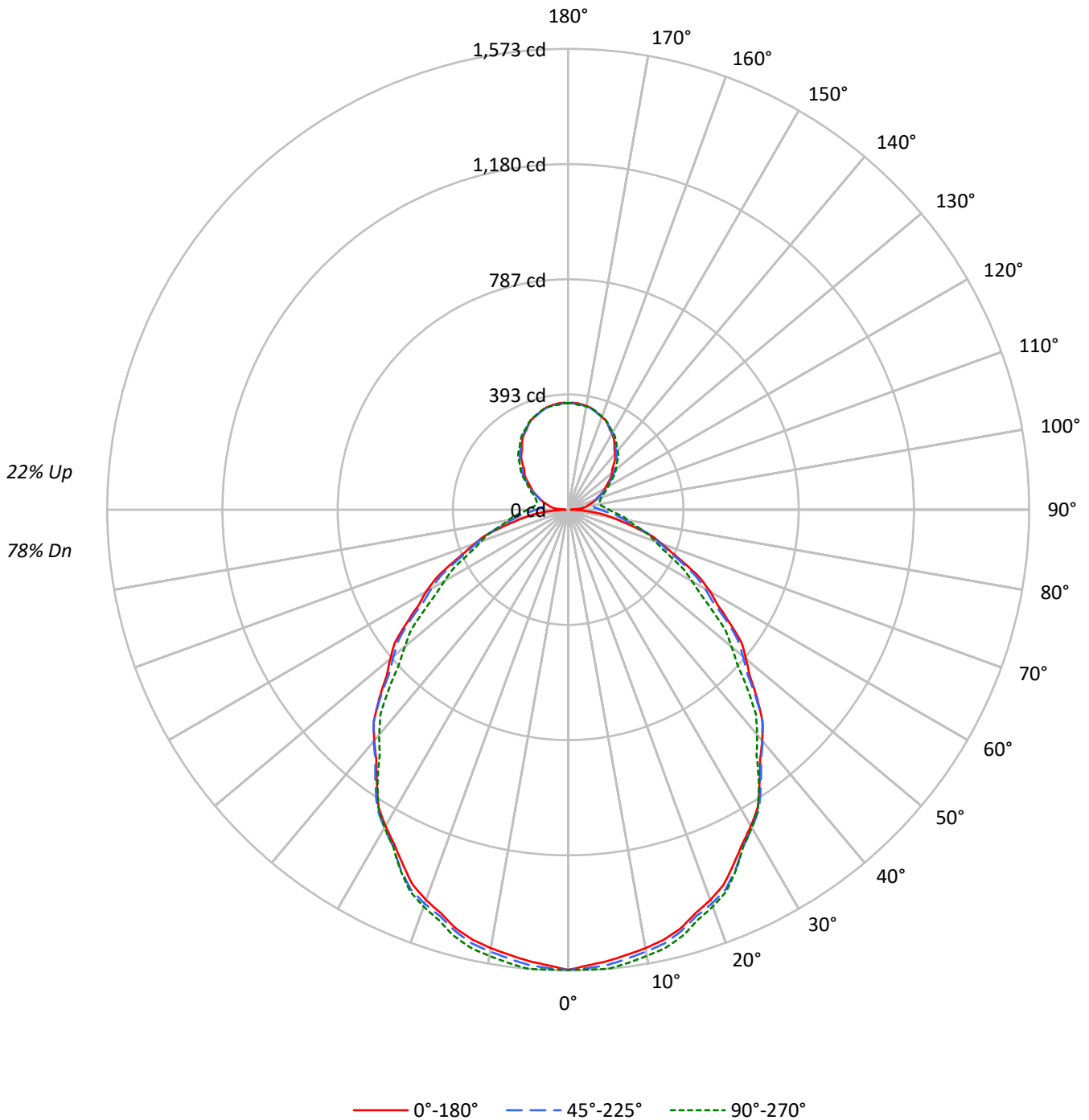
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5124.5 lumens  
Efficiency: N/A  
Efficacy: 134.1 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-Direct

Input Watts (W): 38.2  
Input Voltage (V): 120  
Input Current (Ain): 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	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	78
1	104	99	95	91	99	95	91	87	86	83	81	79	77	74	72	70	69	65
2	94	86	80	74	90	83	77	72	76	71	67	69	66	62	63	60	58	54
3	86	76	68	62	82	73	66	60	67	61	56	61	57	53	56	53	49	46
4	79	68	59	53	75	65	57	51	60	53	48	55	50	45	50	46	43	40
5	73	61	52	46	69	58	50	44	54	47	42	49	44	40	46	41	37	35
6	67	55	46	40	64	53	45	39	49	42	37	45	39	35	41	37	33	31
7	62	50	41	35	59	48	40	34	44	38	33	41	35	31	38	33	29	27
8	58	45	37	31	55	44	36	31	41	34	29	38	32	28	35	30	26	24
9	54	41	34	28	52	40	33	28	37	31	26	35	29	25	32	28	24	22
10	51	38	31	26	49	37	30	25	34	28	24	32	27	23	30	25	22	20

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

	0°	45°	90°
0°	25362	25362	25362
5°	24882	22393	21698
10°	24555	19928	18743
15°	24195	17846	16394
20°	23642	16010	14340
25°	22904	14292	12496
30°	22180	12637	10846
35°	21196	11119	9309
40°	20279	9727	7892
45°	19218	8361	6586
50°	18097	7089	5402
55°	16910	5963	4376
60°	15777	4895	3527
65°	14381	3928	2834
70°	13037	3112	2295
75°	11401	2451	1885
80°	9528	1915	1564
85°	6945	1525	1316

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 19218 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.3	2.9
10°-20°	420.8	8.2
20°-30°	621.2	12.1
30°-40°	714.3	13.9
40°-50°	693.0	13.5
50°-60°	581.1	11.3
60°-70°	422.9	8.3
70°-80°	267.6	5.2
80°-90°	147.7	2.9
90°-100°	92.4	1.8
100°-110°	97.0	1.9
110°-120°	126.2	2.5
120°-130°	158.7	3.1
130°-140°	177.3	3.5
140°-150°	175.0	3.4
150°-160°	148.0	2.9
160°-170°	98.5	1.9
170°-180°	34.5	0.7
0°-30°	1190.2	23.2
0°-40°	1904.6	37.2
0°-60°	3178.8	62.0
0°-90°	4016.9	78.4
90°-120°	315.6	6.2
90°-150°	826.7	16.1
90°-180°	1108.0	21.6
0°-180°	5124.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1571	1571	1571	1571	1571	
5°	1546	1575	1560	1562	1573	147
15°	1480	1502	1489	1496	1506	416
25°	1336	1358	1353	1347	1356	615
35°	1138	1157	1146	1134	1134	713
45°	912	922	906	878	865	703
55°	672	682	658	618	600	603
65°	444	448	428	401	392	441
75°	240	243	255	257	256	256
85°	73	98	147	166	170	77
90°	9	56	109	133	139	10
95°	40	45	90	115	119	37
105°	79	71	88	106	112	84
115°	122	119	126	134	136	121
125°	170	172	178	182	184	152
135°	220	225	230	235	238	170
145°	275	278	280	282	285	172
155°	321	323	321	322	323	147
165°	350	352	349	348	350	99
175°	365	366	362	360	360	35
180°	364	364	364	364	364	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1570.8	1570.8	1570.8	1570.8	1570.8
2.5°	1556.6	1579.1	1565.8	1569.0	1570.8
5°	1546.4	1574.6	1559.7	1562.1	1573.0
7.5°	1532.2	1558.5	1545.4	1548.0	1560.6
10°	1519.7	1545.8	1531.2	1535.5	1546.4
12.5°	1503.8	1528.7	1516.7	1521.3	1532.2
15°	1479.8	1502.3	1489.1	1495.6	1506.4
17.5°	1444.3	1468.1	1454.5	1457.9	1468.7
20°	1417.7	1439.8	1431.4	1431.2	1442.1
22.5°	1385.7	1409.5	1403.0	1397.6	1410.1
25°	1335.6	1358.0	1353.3	1346.9	1355.6
27.5°	1285.9	1303.3	1294.8	1287.8	1294.3
30°	1246.9	1267.1	1254.3	1247.0	1253.5
32.5°	1204.3	1224.8	1211.7	1202.5	1205.6
35°	1138.1	1156.6	1146.0	1133.7	1133.7
37.5°	1075.6	1088.4	1080.0	1060.8	1056.1
40°	1029.4	1044.0	1032.0	1009.3	1002.8
42.5°	981.5	996.0	982.6	957.8	947.8
45°	911.8	921.7	905.6	878.3	865.3
47.5°	840.0	850.5	828.5	798.3	782.7
50°	792.0	804.0	777.7	745.1	727.7
52.5°	745.9	754.7	729.4	692.2	676.8
55°	672.2	682.4	657.5	617.5	599.5
57.5°	603.5	613.2	584.3	548.0	533.7
60°	559.1	567.1	538.4	501.7	487.6
62.5°	509.4	517.7	491.1	460.6	447.2
65°	443.7	448.2	427.6	401.4	392.4
67.5°	382.0	384.3	368.7	351.9	345.5
70°	339.4	341.7	332.7	321.8	315.7
72.5°	300.4	301.2	299.4	294.1	289.8
75°	239.6	242.6	255.3	257.1	255.8
77.5°	186.4	187.0	216.5	224.9	225.8
80°	150.9	156.2	192.7	206.4	207.6
82.5°	118.9	128.9	173.8	190.3	191.5
85°	73.2	97.5	146.8	166.1	169.5
87.5°	33.8	71.4	124.0	146.0	150.3
90°	9.4	56.4	109.2	133.1	139.1
92.5°	21.7	50.2	100.0	123.6	130.0
95°	39.6	45.3	89.5	114.8	119.2
97.5°	54.1	47.9	85.6	107.8	112.5
100°	61.8	53.0	85.0	105.5	111.3
102.5°	68.7	59.0	85.3	105.1	109.9
105°	79.0	71.3	88.0	106.3	111.7
107.5°	90.7	83.6	95.8	111.2	115.0
110°	98.5	93.7	103.0	116.0	120.1

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	108.7	103.9	111.9	121.4	125.5
115°	121.8	119.2	126.5	133.9	135.8
117.5°	135.2	135.0	141.2	146.3	148.1
120°	145.2	146.1	150.6	155.4	156.9
122.5°	155.4	155.5	161.4	166.2	167.7
125°	170.0	172.1	178.0	182.4	183.9
127.5°	184.7	188.8	194.2	198.7	200.6
130°	195.3	200.2	204.7	209.5	211.7
132.5°	203.5	208.4	213.7	220.0	222.6
135°	220.2	225.2	229.5	235.4	238.0
137.5°	237.0	241.8	245.1	249.8	253.1
140°	248.5	252.6	255.0	259.3	262.4
142.5°	259.0	263.1	264.9	268.6	271.6
145°	274.7	278.1	279.8	281.8	284.8
147.5°	289.5	292.8	293.5	295.3	297.1
150°	299.1	302.1	302.2	303.0	304.9
152.5°	308.0	310.8	309.9	310.4	312.6
155°	320.7	322.6	321.1	321.5	323.4
157.5°	330.8	332.6	330.3	331.0	332.5
160°	336.9	338.8	336.2	336.6	338.1
162.5°	342.8	344.1	341.7	341.2	343.4
165°	350.1	351.6	348.9	347.8	350.1
167.5°	356.3	357.8	354.3	353.1	355.3
170°	359.4	360.9	357.0	355.5	357.8
172.5°	362.1	363.6	359.5	357.7	359.4
175°	364.8	366.3	361.7	360.1	360.1
177.5°	365.5	366.4	363.1	361.6	363.4
180°	364.0	364.0	364.0	364.0	364.0

(END OF REPORT)