

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: P644207

Luminaire Tested: CRQ4DIP-SR4F0-100D25U830-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644207  
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-SR4F0-100D25U830-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: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

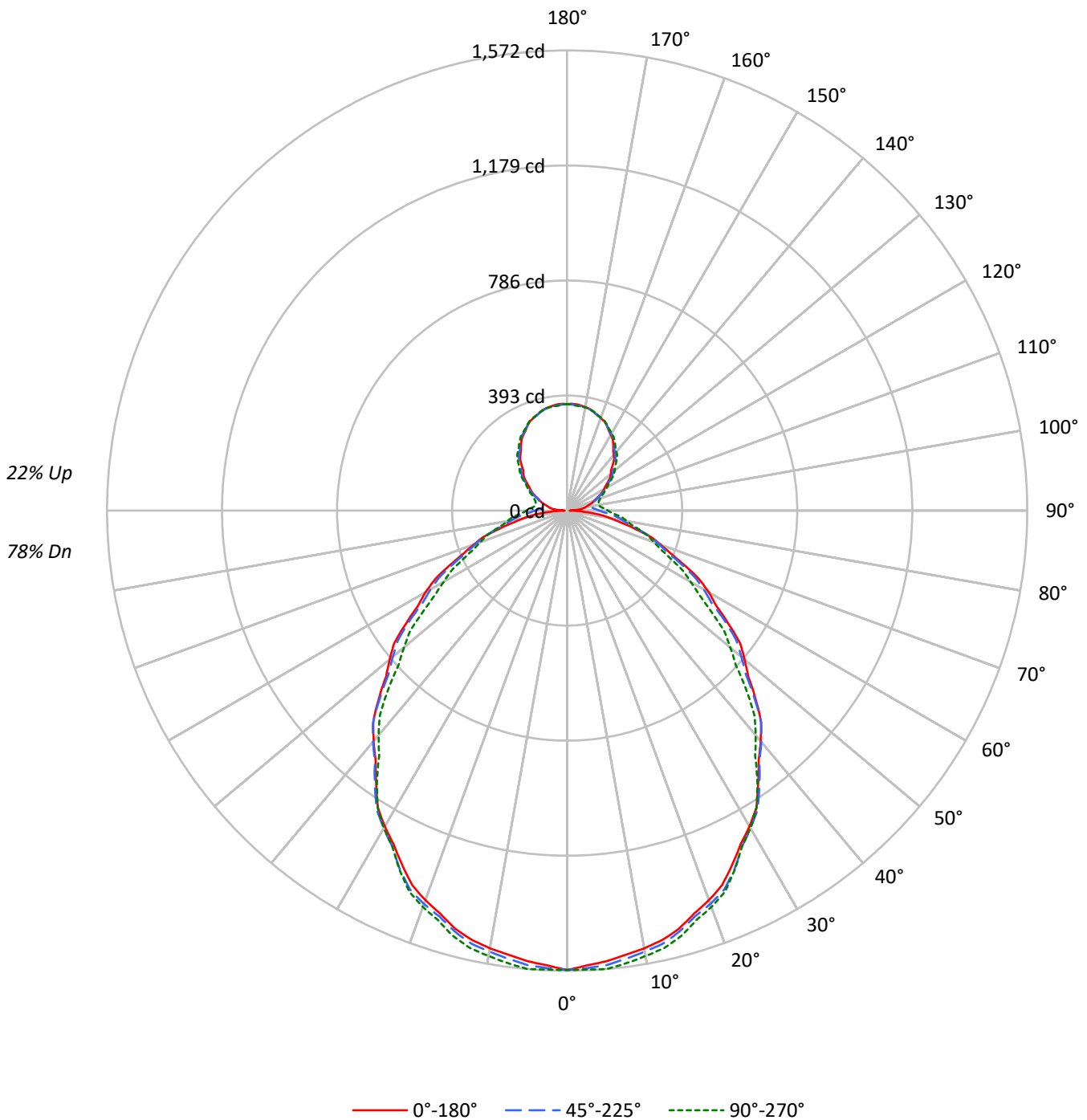
Lumens per Lamp: N/A  
Luminaire Lumens: 5119.9 lumens  
Efficiency: N/A  
Efficacy: 134.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

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°	25339	25339	25339
5°	24859	22373	21678
10°	24534	19909	18726
15°	24174	17830	16380
20°	23620	15996	14327
25°	22883	14279	12484
30°	22158	12626	10836
35°	21177	11108	9301
40°	20261	9719	7885
45°	19201	8354	6580
50°	18081	7083	5397
55°	16894	5958	4372
60°	15763	4892	3524
65°	14368	3924	2832
70°	13026	3109	2293
75°	11392	2448	1883
80°	9515	1913	1562
85°	6936	1522	1315

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 19201 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.2	2.9
10°-20°	420.4	8.2
20°-30°	620.6	12.1
30°-40°	713.7	13.9
40°-50°	692.4	13.5
50°-60°	580.6	11.3
60°-70°	422.5	8.3
70°-80°	267.3	5.2
80°-90°	147.5	2.9
90°-100°	92.3	1.8
100°-110°	96.9	1.9
110°-120°	126.1	2.5
120°-130°	158.5	3.1
130°-140°	177.2	3.5
140°-150°	174.8	3.4
150°-160°	147.9	2.9
160°-170°	98.4	1.9
170°-180°	34.4	0.7
0°-30°	1189.2	23.2
0°-40°	1902.9	37.2
0°-60°	3175.9	62.0
0°-90°	4013.3	78.4
90°-120°	315.4	6.2
90°-150°	825.9	16.1
90°-180°	1107.0	21.6
0°-180°	5119.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1569	1569	1569	1569	1569	
5°	1545	1573	1558	1561	1572	147
15°	1478	1501	1488	1494	1505	416
25°	1334	1357	1352	1346	1354	615
35°	1137	1156	1145	1133	1133	712
45°	911	921	905	878	864	702
55°	672	682	657	617	599	602
65°	443	448	427	401	392	441
75°	239	242	255	257	256	256
85°	73	97	147	166	169	77
90°	9	56	109	133	139	10
95°	40	45	89	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	229	235	238	170
145°	274	278	280	282	284	171
155°	320	322	321	321	323	147
165°	350	351	349	348	350	99
175°	364	366	361	360	360	35
180°	364	364	364	364	364	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1569.4	1569.4	1569.4	1569.4	1569.4
2.5°	1555.2	1577.7	1564.3	1567.6	1569.4
5°	1545.0	1573.1	1558.3	1560.7	1571.6
7.5°	1530.8	1557.1	1544.0	1546.6	1559.2
10°	1518.4	1544.4	1529.8	1534.1	1545.0
12.5°	1502.4	1527.3	1515.3	1519.9	1530.8
15°	1478.5	1500.9	1487.7	1494.2	1505.1
17.5°	1443.0	1466.8	1453.1	1456.6	1467.4
20°	1416.4	1438.5	1430.1	1430.0	1440.8
22.5°	1384.5	1408.3	1401.7	1396.3	1408.9
25°	1334.4	1356.8	1352.1	1345.7	1354.3
27.5°	1284.7	1302.1	1293.6	1286.7	1293.2
30°	1245.7	1266.0	1253.2	1245.9	1252.4
32.5°	1203.2	1223.7	1210.6	1201.5	1204.5
35°	1137.1	1155.6	1144.9	1132.7	1132.7
37.5°	1074.6	1087.4	1079.0	1059.9	1055.1
40°	1028.5	1043.0	1031.1	1008.4	1001.9
42.5°	980.6	995.1	981.8	956.9	946.9
45°	911.0	920.8	904.8	877.5	864.5
47.5°	839.2	849.7	827.8	797.6	782.0
50°	791.3	803.3	777.0	744.4	727.0
52.5°	745.2	754.0	728.8	691.5	676.2
55°	671.6	681.8	656.9	617.0	599.0
57.5°	602.9	612.7	583.8	547.5	533.2
60°	558.6	566.6	538.0	501.2	487.2
62.5°	508.9	517.2	490.7	460.2	446.8
65°	443.3	447.8	427.2	401.0	392.1
67.5°	381.7	384.0	368.4	351.5	345.2
70°	339.1	341.4	332.4	321.5	315.5
72.5°	300.1	301.0	299.1	293.8	289.6
75°	239.4	242.4	255.0	256.8	255.5
77.5°	186.2	186.8	216.3	224.7	225.6
80°	150.7	156.0	192.5	206.2	207.4
82.5°	118.8	128.8	173.7	190.1	191.3
85°	73.1	97.4	146.6	166.0	169.4
87.5°	33.8	71.3	123.9	145.9	150.1
90°	9.4	56.4	109.1	133.0	138.9
92.5°	21.7	50.2	99.9	123.5	129.9
95°	39.5	45.3	89.4	114.7	119.1
97.5°	54.0	47.9	85.5	107.7	112.4
100°	61.7	53.0	84.9	105.4	111.2
102.5°	68.6	58.9	85.2	105.0	109.8
105°	78.9	71.2	87.9	106.2	111.6
107.5°	90.6	83.5	95.7	111.1	114.8
110°	98.4	93.6	102.9	115.9	119.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	108.6	103.8	111.8	121.3	125.4
115°	121.7	119.1	126.4	133.8	135.7
117.5°	135.1	134.9	141.1	146.2	148.0
120°	145.0	146.0	150.5	155.2	156.7
122.5°	155.2	155.4	161.3	166.0	167.5
125°	169.8	171.9	177.9	182.3	183.8
127.5°	184.6	188.6	194.0	198.5	200.4
130°	195.1	200.0	204.5	209.3	211.6
132.5°	203.3	208.2	213.5	219.8	222.4
135°	220.0	225.0	229.3	235.2	237.8
137.5°	236.8	241.6	244.9	249.5	252.9
140°	248.2	252.4	254.8	259.1	262.1
142.5°	258.7	262.9	264.7	268.4	271.4
145°	274.5	277.9	279.5	281.5	284.5
147.5°	289.2	292.6	293.2	295.0	296.9
150°	298.8	301.8	301.9	302.7	304.6
152.5°	307.8	310.5	309.6	310.1	312.3
155°	320.4	322.3	320.8	321.2	323.1
157.5°	330.5	332.3	330.0	330.7	332.2
160°	336.6	338.5	335.9	336.3	337.8
162.5°	342.5	343.8	341.4	340.9	343.0
165°	349.8	351.3	348.6	347.5	349.8
167.5°	355.9	357.4	353.9	352.7	355.0
170°	359.0	360.5	356.7	355.2	357.5
172.5°	361.8	363.3	359.2	357.4	359.0
175°	364.4	365.9	361.3	359.8	359.8
177.5°	365.2	366.1	362.7	361.2	363.0
180°	363.7	363.7	363.7	363.7	363.7

(END OF REPORT)