

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: P644208

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

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644208  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, 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-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 250 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

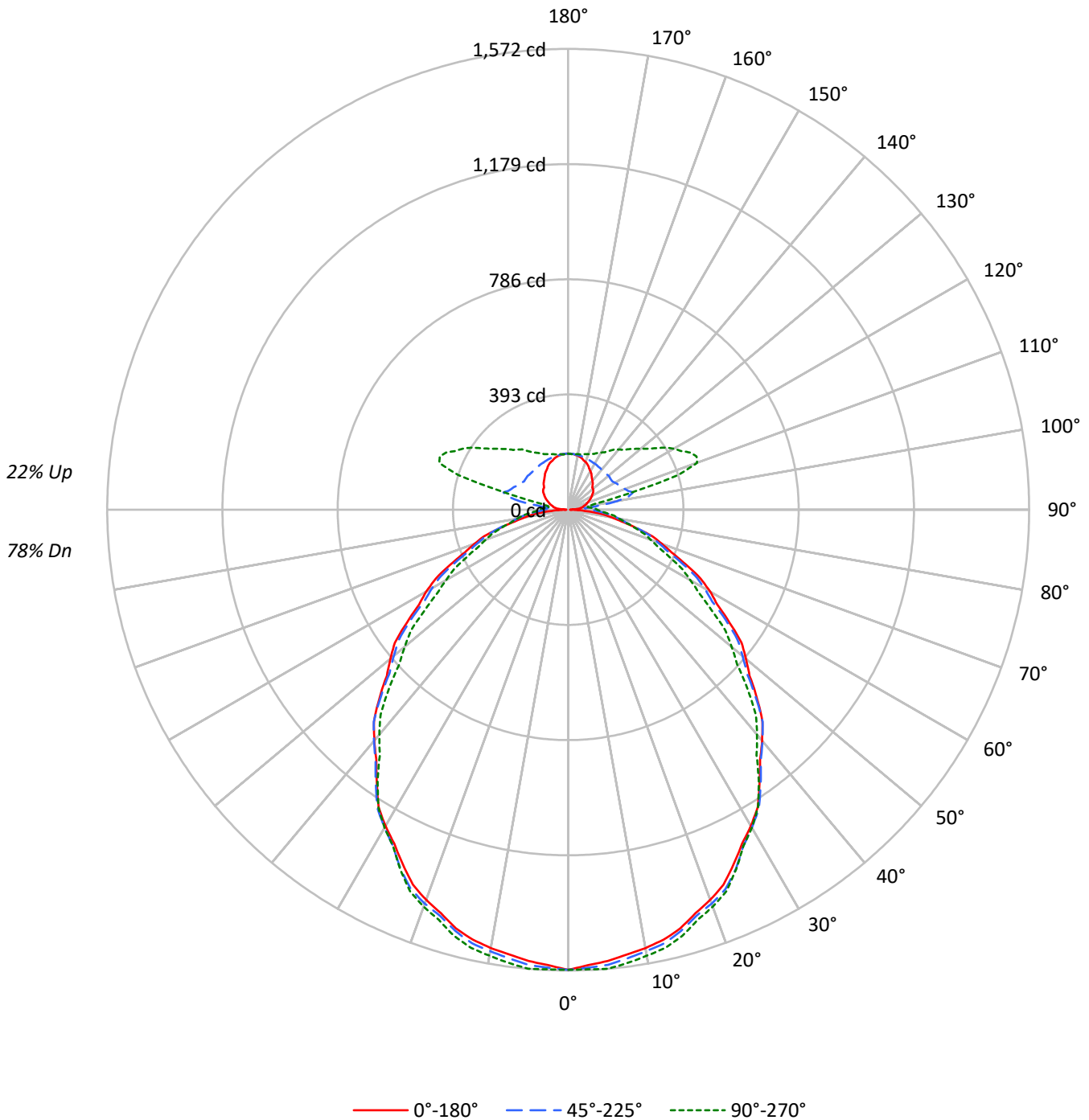
Lumens per Lamp: N/A  
Luminaire Lumens: 5073.0 lumens  
Efficiency: N/A  
Efficacy: 132.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

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										
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	50	30	10	0														
RCR																																						
0	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	82	82	82	82	82	82	78														
1	104	99	95	91	99	95	91	88	87	84	81	79	77	75	72	70	69	69	69	69	69	69	69	65														
2	95	87	80	75	90	83	77	72	76	71	67	70	66	63	64	61	58	58	58	58	58	58	58	55														
3	86	76	69	63	82	73	66	61	67	62	57	62	57	53	57	53	50	47	47	47	47	47	47	47														
4	79	68	60	53	75	65	58	52	60	54	49	55	50	46	51	46	43	40	40	40	40	40	40	40														
5	73	61	52	46	69	58	51	45	54	47	42	50	44	40	46	41	38	35	35	35	35	35	35	35														
6	67	55	46	40	64	53	45	39	49	42	37	45	39	35	42	37	33	31	31	31	31	31	31	31														
7	63	50	41	36	60	48	40	35	44	38	33	41	36	31	38	33	30	27	27	27	27	27	27	27														
8	58	45	37	32	56	44	36	31	41	34	30	38	32	28	35	30	27	25	25	25	25	25	25	25														
9	54	42	34	28	52	40	33	28	37	31	27	35	29	25	32	28	24	22	22	22	22	22	22	22														
10	51	38	31	26	49	37	30	25	35	28	24	32	27	23	30	25	22	20	20	20	20	20	20	20														

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

	0°	45°	90°
0°	25339	25339	25339
5°	24859	22373	21678
10°	24534	19906	18726
15°	24174	17825	16380
20°	23620	15991	14327
25°	22883	14279	12484
30°	22158	12618	10836
35°	21177	11098	9301
40°	20261	9715	7885
45°	19201	8350	6580
50°	18081	7072	5397
55°	16894	5950	4353
60°	15763	4877	3479
65°	14368	3889	2754
70°	13026	3047	2175
75°	11392	2341	1715
80°	9515	1740	1336
85°	6936	1266	1016

**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°	148.1	2.9
10°-20°	420.3	8.3
20°-30°	620.5	12.2
30°-40°	713.4	14.1
40°-50°	692.0	13.6
50°-60°	579.3	11.4
60°-70°	417.4	8.2
70°-80°	255.0	5.0
80°-90°	124.3	2.5
90°-100°	72.5	1.4
100°-110°	185.2	3.7
110°-120°	233.5	4.6
120°-130°	187.6	3.7
130°-140°	149.1	2.9
140°-150°	117.3	2.3
150°-160°	85.8	1.7
160°-170°	53.3	1.1
170°-180°	18.2	0.4
0°-30°	1189.0	23.4
0°-40°	1902.4	37.5
0°-60°	3173.7	62.6
0°-90°	3970.4	78.3
90°-120°	491.3	9.7
90°-150°	945.3	18.6
90°-180°	1103.0	21.7
0°-180°	5073.0	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	1500	1487	1494	1505	416
25°	1334	1356	1352	1346	1354	615
35°	1137	1154	1144	1133	1133	712
45°	911	920	904	878	864	702
55°	672	680	656	616	596	602
65°	443	446	423	392	381	441
75°	239	239	244	237	233	256
85°	73	88	122	131	131	77
90°	7	45	82	97	99	9
95°	32	38	56	73	78	30
105°	59	66	229	298	208	63
115°	82	87	192	394	460	81
125°	104	112	179	309	365	92
135°	118	131	178	254	292	91
145°	139	151	179	222	245	88
155°	164	169	183	201	210	75
165°	182	184	188	192	196	51
175°	191	192	191	190	189	18
180°	191	191	191	191	191	



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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	1564.0	1567.6	1569.4
5°	1545.0	1573.1	1558.3	1560.7	1571.6
7.5°	1530.8	1556.8	1543.6	1546.6	1559.2
10°	1518.4	1544.4	1529.5	1534.1	1545.0
12.5°	1502.4	1526.7	1515.3	1519.9	1530.8
15°	1478.5	1500.1	1487.3	1494.2	1505.1
17.5°	1443.0	1466.4	1452.8	1456.6	1467.4
20°	1416.4	1438.1	1429.7	1430.0	1440.8
22.5°	1384.5	1407.9	1401.3	1396.3	1408.9
25°	1334.4	1356.1	1352.1	1345.7	1354.3
27.5°	1284.7	1300.8	1293.2	1286.7	1293.2
30°	1245.7	1265.2	1252.4	1245.9	1252.4
32.5°	1203.2	1222.7	1209.8	1201.5	1204.5
35°	1137.1	1154.5	1143.8	1132.7	1132.7
37.5°	1074.6	1085.9	1078.6	1059.9	1055.1
40°	1028.5	1041.5	1030.7	1008.4	1001.9
42.5°	980.6	993.6	981.1	956.9	946.9
45°	911.0	919.7	904.4	877.5	864.5
47.5°	839.2	848.3	827.2	797.6	782.0
50°	791.3	802.2	775.8	744.4	727.0
52.5°	745.2	752.6	727.9	691.2	675.6
55°	671.6	680.3	656.1	615.8	596.3
57.5°	602.9	611.2	582.5	544.1	528.9
60°	558.6	565.1	536.4	496.2	481.0
62.5°	508.9	515.4	488.5	453.6	438.4
65°	443.3	445.5	423.4	392.1	381.3
67.5°	381.7	381.7	363.1	339.8	331.2
70°	339.1	339.1	325.8	307.9	299.2
72.5°	300.1	298.4	290.4	277.8	270.9
75°	239.4	239.4	243.8	237.1	232.7
77.5°	186.2	182.7	201.7	200.8	198.6
80°	150.7	150.7	175.1	179.5	177.3
82.5°	118.8	122.3	153.8	160.0	157.8
85°	73.1	88.3	121.9	130.8	130.8
87.5°	33.2	59.9	96.2	108.0	108.4
90°	6.6	44.7	82.2	96.8	98.9
92.5°	16.6	37.3	70.9	86.5	91.3
95°	31.8	37.8	56.2	73.0	77.5
97.5°	43.7	47.4	104.4	67.5	67.2
100°	49.4	54.2	168.4	79.5	69.8
102.5°	53.4	59.2	211.4	140.8	93.6
105°	59.4	66.4	228.7	298.0	208.3
107.5°	65.4	67.9	213.9	417.0	393.5
110°	69.4	72.7	206.4	434.0	467.9

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	75.2	78.5	200.6	418.4	473.9
115°	81.6	87.1	192.0	394.2	460.0
117.5°	87.9	95.7	189.4	366.3	434.0
120°	92.8	101.4	183.7	345.4	415.9
122.5°	97.6	105.4	178.9	328.9	393.8
125°	103.8	112.4	178.9	309.0	365.4
127.5°	108.1	119.6	179.2	285.9	341.6
130°	110.2	124.3	180.1	270.5	323.4
132.5°	111.5	125.6	178.4	263.5	307.0
135°	117.8	130.7	177.9	254.5	292.1
137.5°	123.8	137.7	177.9	244.5	276.7
140°	128.6	141.6	177.9	238.7	268.1
142.5°	133.4	145.4	178.9	231.9	259.4
145°	139.4	151.2	179.1	221.7	245.2
147.5°	146.7	157.0	180.6	214.4	232.5
150°	151.5	160.9	181.5	209.5	224.8
152.5°	156.3	164.7	181.5	205.6	218.1
155°	163.5	169.4	182.7	201.0	210.4
157.5°	169.3	174.9	184.2	198.0	204.8
160°	173.1	177.8	185.1	196.1	201.9
162.5°	176.0	180.7	186.1	195.1	199.1
165°	181.5	183.9	187.5	192.4	195.9
167.5°	184.6	186.8	188.7	191.2	193.3
170°	187.5	188.7	188.7	191.2	192.3
172.5°	188.5	190.6	189.7	190.2	191.4
175°	191.1	192.3	191.1	189.9	188.7
177.5°	191.1	192.1	191.1	191.1	190.2
180°	191.1	191.1	191.1	191.1	191.1

(END OF REPORT)