

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: P644318

Luminaire Tested: CRQ4DIP-SR4F0-50D100U835-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644318  
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-SR4F0-50D100U835-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 1000 LUMENS PER FOOT  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

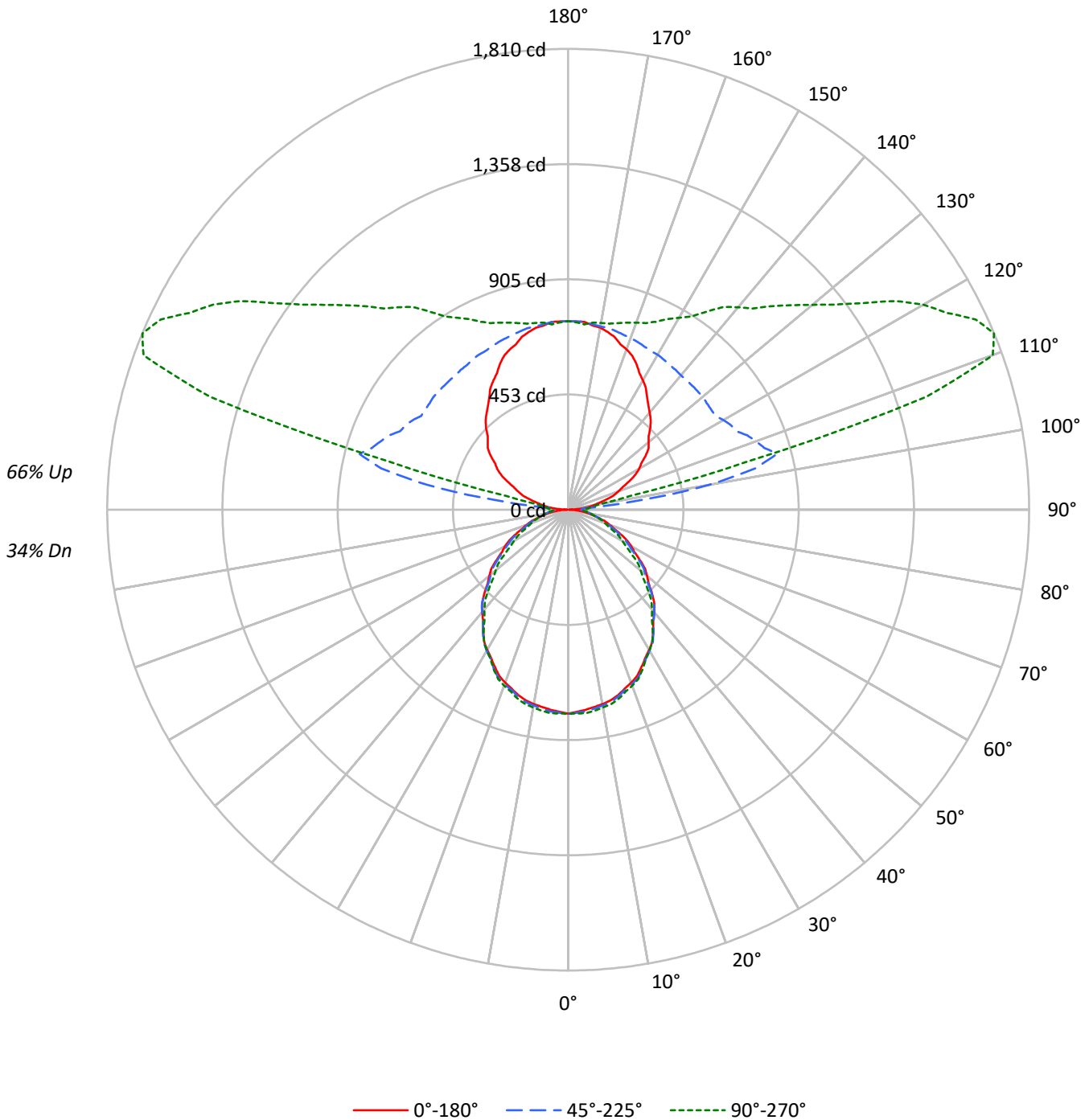
Lumens per Lamp: N/A  
Luminaire Lumens: 6042.2 lumens  
Efficiency: N/A  
Efficacy: 139.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Indirect

Input Watts (W): 43.3  
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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	86	82	85	81	78	75	65	63	60	50	48	47	36	35	34	28
2	86	78	72	67	77	71	66	61	57	53	50	44	41	39	32	30	29	24
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	26	25	20
4	71	61	53	47	64	55	49	43	44	40	36	34	31	29	25	23	21	17
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	20	19	15
6	60	49	41	35	54	44	37	32	36	31	27	28	24	22	21	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	15	12
8	52	40	32	27	46	36	29	25	29	24	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	14	12	10
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11	9

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

	0°	45°	90°
0°	12936	12936	12936
5°	12692	11423	11067
10°	12525	10162	9561
15°	12341	9100	8363
20°	12059	8164	7315
25°	11683	7290	6373
30°	11313	6442	5532
35°	10811	5665	4749
40°	10344	4960	4025
45°	9803	4263	3359
50°	9231	3611	2756
55°	8626	3038	2222
60°	8048	2490	1777
65°	7335	1985	1406
70°	6649	1556	1111
75°	5815	1195	876
80°	4862	889	682
85°	3539	646	519

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9803 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.6	1.3
10°-20°	214.6	3.6
20°-30°	316.8	5.2
30°-40°	364.2	6.0
40°-50°	353.3	5.8
50°-60°	295.8	4.9
60°-70°	213.1	3.5
70°-80°	130.2	2.2
80°-90°	64.9	1.1
90°-100°	116.0	1.9
100°-110°	657.4	10.9
110°-120°	883.3	14.6
120°-130°	717.7	11.9
130°-140°	576.3	9.5
140°-150°	454.2	7.5
150°-160°	332.1	5.5
160°-170°	206.3	3.4
170°-180°	70.3	1.2
0°-30°	607.0	10.0
0°-40°	971.2	16.1
0°-60°	1620.3	26.8
0°-90°	2028.5	33.6
90°-120°	1656.7	27.4
90°-150°	3405.0	56.4
90°-180°	4014.0	66.4
0°-180°	6042.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	801	801	801	801	801	
5°	789	803	796	797	802	75
15°	755	766	759	763	768	212
25°	681	692	690	687	691	314
35°	580	589	584	578	578	364
45°	465	470	462	448	441	358
55°	343	347	335	314	304	307
65°	226	227	216	200	195	225
75°	122	122	124	121	119	131
85°	37	45	62	67	67	39
90°	3	27	50	62	63	6
95°	48	79	61	74	84	51
105°	156	226	848	1086	724	164
115°	264	314	728	1511	1766	262
125°	372	420	685	1196	1415	331
135°	456	506	689	985	1131	351
145°	540	585	693	858	949	339
155°	633	656	707	778	814	291
165°	703	712	726	745	759	197
175°	740	744	740	735	731	70
180°	740	740	740	740	740	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	801.2	801.2	801.2	801.2	801.2
2.5°	794.0	805.5	798.5	800.3	801.2
5°	788.8	803.2	795.6	796.8	802.3
7.5°	781.5	794.8	788.1	789.6	796.0
10°	775.2	788.5	780.8	783.2	788.8
12.5°	767.0	779.4	773.6	776.0	781.5
15°	754.8	765.9	759.3	762.9	768.4
17.5°	736.7	748.7	741.7	743.6	749.2
20°	723.1	734.2	729.9	730.0	735.6
22.5°	706.8	718.8	715.4	712.9	719.3
25°	681.3	692.3	690.3	687.0	691.4
27.5°	655.9	664.1	660.2	656.9	660.2
30°	636.0	646.0	639.4	636.1	639.4
32.5°	614.3	624.2	617.7	613.4	614.9
35°	580.5	589.4	583.9	578.3	578.3
37.5°	548.6	554.4	550.7	541.1	538.7
40°	525.1	531.7	526.2	514.8	511.5
42.5°	500.6	507.3	500.9	488.5	483.4
45°	465.1	469.5	461.7	448.0	441.3
47.5°	428.4	433.1	422.3	407.2	399.3
50°	404.0	409.5	396.1	380.0	371.2
52.5°	380.5	384.2	371.6	352.9	344.9
55°	342.9	347.3	335.0	314.4	304.4
57.5°	307.8	312.0	297.4	277.8	270.0
60°	285.2	288.5	273.9	253.3	245.6
62.5°	259.8	263.1	249.4	231.6	223.8
65°	226.3	227.4	216.1	200.2	194.6
67.5°	194.9	194.9	185.4	173.5	169.1
70°	173.1	173.1	166.4	157.2	152.8
72.5°	153.2	152.3	148.2	141.8	138.3
75°	122.2	122.2	124.5	121.0	118.8
77.5°	95.1	93.3	103.0	102.5	101.4
80°	77.0	77.0	89.4	91.6	90.5
82.5°	60.7	62.4	78.5	81.7	80.6
85°	37.3	45.1	62.2	66.8	66.8
87.5°	17.0	31.4	50.7	57.6	57.8
90°	3.4	26.8	50.0	61.5	62.6
92.5°	18.2	32.7	54.0	69.3	74.9
95°	48.5	79.3	61.0	73.8	84.0
97.5°	79.7	139.2	290.9	104.5	94.9
100°	102.0	171.6	562.8	180.9	128.5
102.5°	123.4	196.7	752.7	442.2	250.6
105°	155.6	226.3	848.0	1086.3	724.5
107.5°	187.7	239.6	807.4	1572.5	1474.4
110°	209.2	258.3	784.1	1650.2	1774.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	231.5	280.6	761.8	1601.9	1809.6
115°	263.9	314.1	728.3	1511.3	1766.1
117.5°	297.0	347.6	719.7	1412.4	1674.5
120°	322.1	370.0	703.9	1337.3	1610.3
122.5°	340.7	391.3	685.3	1273.5	1524.7
125°	372.2	420.0	685.3	1196.4	1414.8
127.5°	397.8	447.9	686.2	1107.0	1322.7
130°	411.8	466.4	689.9	1047.2	1251.9
132.5°	428.6	483.2	689.0	1020.3	1188.6
135°	456.1	506.2	688.8	985.3	1130.9
137.5°	479.4	533.1	688.8	946.7	1071.4
140°	498.0	548.0	688.8	924.1	1037.8
142.5°	516.6	563.0	692.5	897.9	1004.3
145°	539.9	585.4	693.4	858.4	949.4
147.5°	567.8	607.8	699.0	830.0	900.1
150°	586.4	622.8	702.8	811.1	870.3
152.5°	605.0	637.8	702.8	796.0	844.2
155°	632.9	655.7	707.4	778.0	814.5
157.5°	655.3	677.1	713.0	766.7	793.0
160°	670.2	688.4	716.7	759.1	781.9
162.5°	681.3	699.6	720.4	755.2	770.7
165°	702.8	711.9	726.0	745.0	758.6
167.5°	714.9	723.0	730.7	740.2	748.4
170°	726.0	730.6	730.7	740.1	744.6
172.5°	729.8	737.9	734.4	736.4	740.9
175°	740.0	744.5	740.0	735.2	730.7
177.5°	740.0	743.6	740.0	739.9	736.3
180°	740.0	740.0	740.0	740.0	740.0

(END OF REPORT)