

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: P644334

Luminaire Tested: CRQ4DIP-SR4F0-50D125U930-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644334  
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-SR4F0-50D125U930-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 1250 LUMENS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

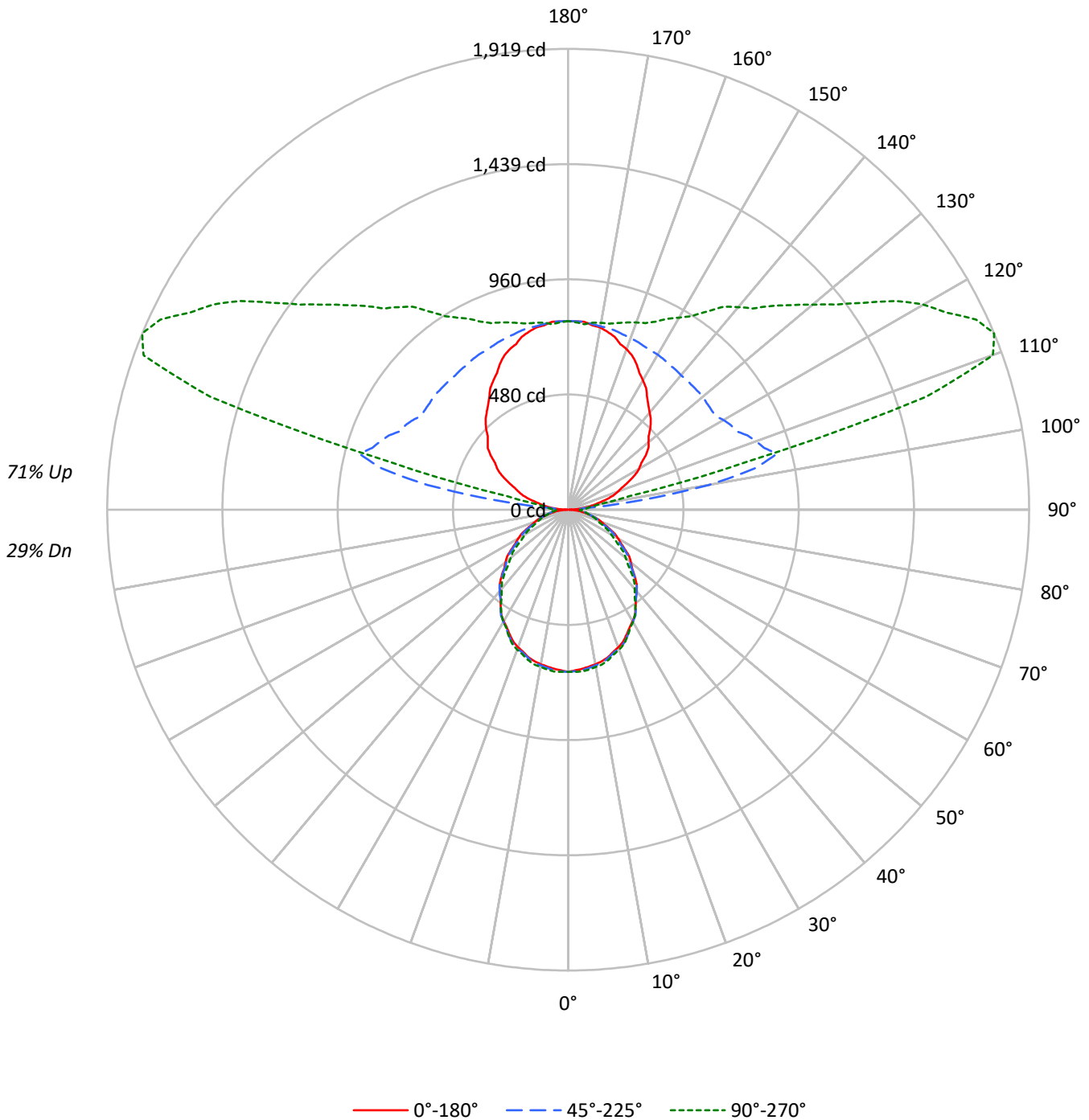
Lumens per Lamp: N/A  
Luminaire Lumens: 5960.6 lumens  
Efficiency: N/A  
Efficacy: 113.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Indirect

Input Watts (W): 52.5  
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	102	102	102	102	91	91	91	91	72	72	72	53	53	53	37	37	37	29
1	93	89	85	81	83	80	76	73	62	60	58	47	45	44	32	31	31	24
2	85	77	71	66	75	69	64	60	55	51	48	41	39	37	28	27	26	20
3	77	68	61	55	69	61	55	50	48	44	41	36	33	31	25	23	22	17
4	71	60	53	47	63	54	48	43	43	38	34	32	29	27	22	21	19	15
5	65	53	46	40	58	48	41	36	38	33	30	29	26	23	20	18	17	13
6	59	48	40	34	53	43	36	32	34	29	26	26	23	20	18	16	15	11
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	26	45	35	29	24	28	23	20	22	18	16	15	13	12	9
9	47	35	28	23	42	32	26	21	26	21	18	20	16	14	14	12	10	8
10	44	32	25	21	39	29	23	19	24	19	16	18	15	13	13	11	9	7

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

	0°	45°	90°
0°	10908	10908	10908
5°	10702	9631	9332
10°	10561	8569	8061
15°	10407	7674	7051
20°	10168	6884	6167
25°	9850	6147	5374
30°	9540	5431	4665
35°	9116	4777	4004
40°	8723	4182	3394
45°	8266	3594	2832
50°	7785	3045	2324
55°	7272	2561	1874
60°	6787	2099	1498
65°	6184	1675	1185
70°	5608	1312	936
75°	4906	1008	739
80°	4098	749	575
85°	2989	545	437

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8266 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.8	1.1
10°-20°	180.9	3.0
20°-30°	267.1	4.5
30°-40°	307.1	5.2
40°-50°	297.9	5.0
50°-60°	249.4	4.2
60°-70°	179.7	3.0
70°-80°	109.8	1.8
80°-90°	55.1	0.9
90°-100°	117.6	2.0
100°-110°	695.5	11.7
110°-120°	936.4	15.7
120°-130°	761.1	12.8
130°-140°	611.4	10.3
140°-150°	481.9	8.1
150°-160°	352.4	5.9
160°-170°	218.9	3.7
170°-180°	74.6	1.3
0°-30°	511.8	8.6
0°-40°	818.9	13.7
0°-60°	1366.2	22.9
0°-90°	1710.8	28.7
90°-120°	1749.6	29.4
90°-150°	3603.9	60.5
90°-180°	4250.0	71.3
0°-180°	5960.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	676	676	676	676	676	
5°	665	677	671	672	676	63
15°	636	646	640	643	648	179
25°	574	584	582	579	583	265
35°	490	497	492	488	488	307
45°	392	396	389	378	372	302
55°	289	293	282	265	257	259
65°	191	192	182	169	164	190
75°	103	103	105	102	100	110
85°	32	38	52	56	56	33
90°	3	24	44	55	56	5
95°	49	82	60	71	82	52
105°	163	239	898	1150	766	172
115°	278	332	772	1603	1873	276
125°	394	445	727	1269	1501	350
135°	484	537	731	1045	1200	373
145°	573	621	736	911	1007	360
155°	672	696	750	825	864	308
165°	746	755	770	790	805	209
175°	785	790	785	780	775	74
180°	785	785	785	785	785	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	675.6	675.6	675.6	675.6	675.6
2.5°	669.5	679.2	673.3	674.8	675.6
5°	665.1	677.2	670.8	671.9	676.5
7.5°	659.0	670.2	664.5	665.8	671.2
10°	653.6	664.8	658.4	660.4	665.1
12.5°	646.8	657.2	652.3	654.3	659.0
15°	636.5	645.8	640.3	643.2	647.9
17.5°	621.2	631.3	625.4	627.0	631.7
20°	609.7	619.1	615.5	615.6	620.2
22.5°	596.0	606.1	603.2	601.1	606.5
25°	574.4	583.8	582.1	579.3	583.0
27.5°	553.1	560.0	556.7	553.9	556.7
30°	536.3	544.7	539.1	536.3	539.1
32.5°	517.9	526.3	520.8	517.2	518.5
35°	489.5	497.0	492.4	487.6	487.6
37.5°	462.6	467.5	464.3	456.3	454.2
40°	442.8	448.3	443.7	434.1	431.3
42.5°	422.1	427.7	422.3	411.9	407.6
45°	392.2	395.9	389.3	377.7	372.1
47.5°	361.3	365.2	356.1	343.4	336.6
50°	340.7	345.3	334.0	320.4	313.0
52.5°	320.8	324.0	313.4	297.6	290.8
55°	289.1	292.9	282.4	265.1	256.7
57.5°	259.5	263.1	250.8	234.2	227.7
60°	240.5	243.3	230.9	213.6	207.1
62.5°	219.1	221.9	210.3	195.3	188.7
65°	190.8	191.8	182.3	168.8	164.1
67.5°	164.3	164.3	156.3	146.3	142.6
70°	146.0	146.0	140.3	132.5	128.8
72.5°	129.2	128.5	125.0	119.6	116.6
75°	103.1	103.1	105.0	102.1	100.2
77.5°	80.2	78.7	86.8	86.4	85.5
80°	64.9	64.9	75.4	77.3	76.3
82.5°	51.1	52.6	66.2	68.9	67.9
85°	31.5	38.0	52.5	56.3	56.3
87.5°	14.3	26.7	43.2	49.2	49.3
90°	2.9	23.6	44.2	54.9	55.8
92.5°	17.8	31.0	50.0	64.7	70.2
95°	49.0	81.9	59.5	71.4	82.0
97.5°	81.6	146.3	304.8	105.7	95.2
100°	105.3	180.8	594.1	187.8	131.7
102.5°	128.2	207.6	796.4	465.8	262.2
105°	162.6	239.1	898.5	1150.3	765.9
107.5°	197.0	253.4	855.9	1666.9	1562.6
110°	219.9	273.2	831.4	1749.7	1881.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	243.6	296.9	807.7	1698.9	1919.0
115°	278.2	332.4	772.2	1602.9	1873.2
117.5°	313.6	368.0	763.1	1498.2	1776.3
120°	340.5	391.8	746.5	1418.7	1708.4
122.5°	360.3	414.6	726.8	1351.0	1617.5
125°	393.9	445.1	726.8	1269.3	1501.0
127.5°	421.4	474.7	727.7	1174.4	1403.2
130°	436.4	494.3	731.7	1110.9	1328.2
132.5°	454.6	512.6	730.9	1082.4	1261.0
135°	483.9	537.0	730.7	1045.3	1199.8
137.5°	508.6	565.5	730.7	1004.3	1136.6
140°	528.3	581.4	730.7	980.4	1101.1
142.5°	548.1	597.3	734.7	952.5	1065.5
145°	572.7	621.0	735.7	910.7	1007.2
147.5°	602.4	644.9	741.6	880.6	954.9
150°	622.1	660.7	745.6	860.5	923.3
152.5°	641.9	676.6	745.6	844.5	895.7
155°	671.5	695.6	750.5	825.4	864.1
157.5°	695.2	718.4	756.4	813.3	841.3
160°	711.0	730.3	760.4	805.4	829.5
162.5°	722.8	742.2	764.3	801.2	817.6
165°	745.6	755.2	770.2	790.3	804.8
167.5°	758.4	767.1	775.2	785.3	793.9
170°	770.2	775.1	775.2	785.2	790.0
172.5°	774.2	782.9	779.1	781.2	786.0
175°	785.1	789.9	785.1	780.0	775.2
177.5°	785.1	788.9	785.1	785.0	781.1
180°	785.1	785.1	785.1	785.1	785.1

(END OF REPORT)