

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: P644320

Luminaire Tested: CRQ4DIP-SR4F0-50D100U840-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644320
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-SR4F0-50D100U840-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: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

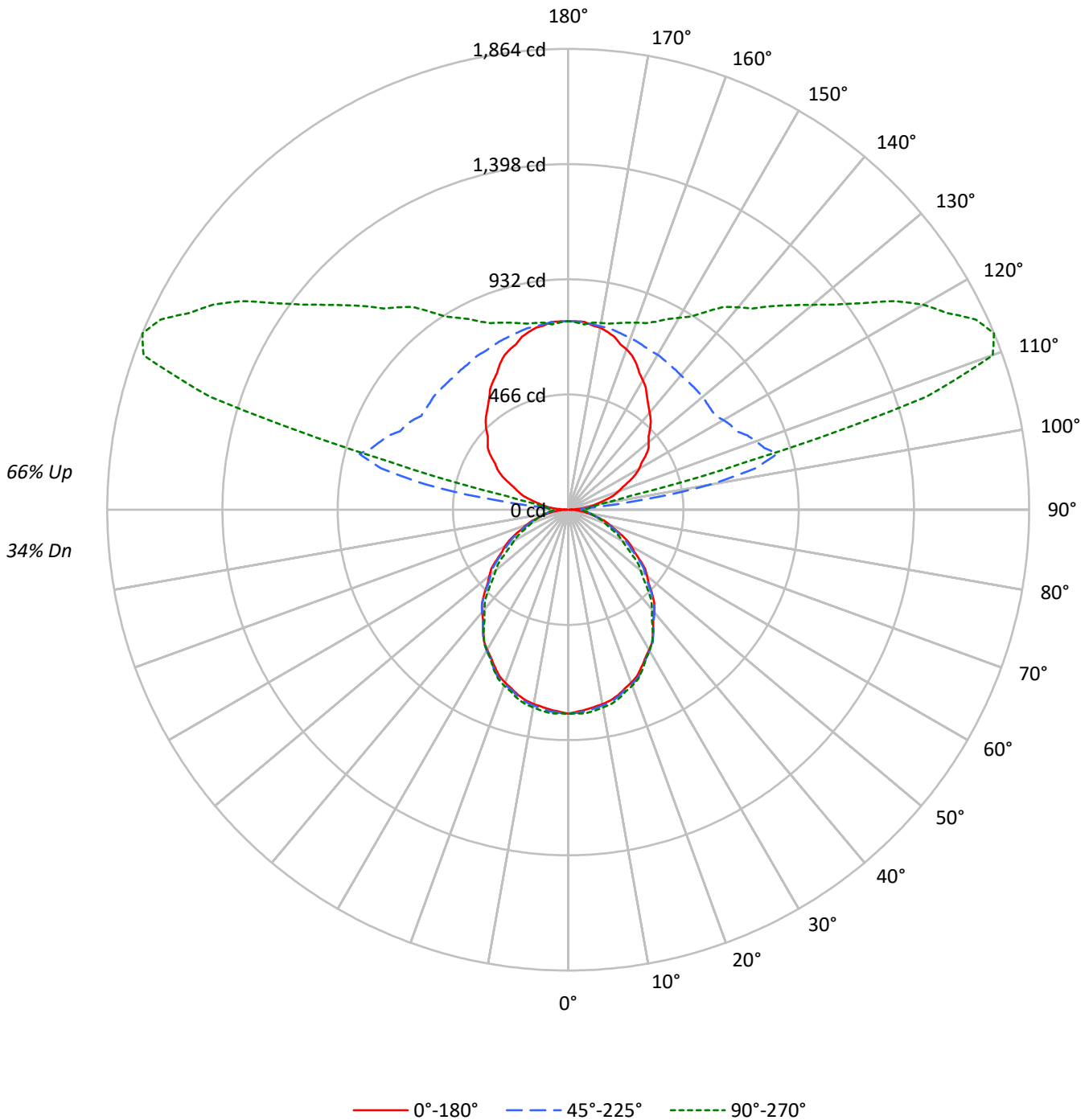
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6222.4 lumens
Efficiency: N/A
Efficacy: 143.7 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 (A_{in}): 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									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	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°	13322	13322	13322
5°	13070	11763	11398
10°	12899	10465	9846
15°	12709	9372	8612
20°	12419	8408	7532
25°	12031	7508	6564
30°	11651	6634	5698
35°	11133	5834	4890
40°	10651	5108	4146
45°	10096	4390	3459
50°	9505	3718	2838
55°	8882	3129	2288
60°	8288	2564	1829
65°	7555	2045	1448
70°	6849	1602	1143
75°	5991	1231	902
80°	5001	915	702
85°	3653	666	534

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10096 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.9	1.3
10°-20°	221.0	3.6
20°-30°	326.2	5.2
30°-40°	375.1	6.0
40°-50°	363.8	5.8
50°-60°	304.6	4.9
60°-70°	219.4	3.5
70°-80°	134.1	2.2
80°-90°	66.9	1.1
90°-100°	119.5	1.9
100°-110°	677.0	10.9
110°-120°	909.7	14.6
120°-130°	739.1	11.9
130°-140°	593.5	9.5
140°-150°	467.8	7.5
150°-160°	342.0	5.5
160°-170°	212.4	3.4
170°-180°	72.4	1.2
0°-30°	625.1	10.0
0°-40°	1000.2	16.1
0°-60°	1668.6	26.8
0°-90°	2089.0	33.6
90°-120°	1706.1	27.4
90°-150°	3506.5	56.4
90°-180°	4133.0	66.4
0°-180°	6222.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	825	825	825	825	825	
5°	812	827	819	821	826	77
15°	777	789	782	786	791	219
25°	702	713	711	708	712	323
35°	598	607	601	596	596	374
45°	479	484	476	461	454	369
55°	353	358	345	324	314	317
65°	233	234	223	206	200	232
75°	126	126	128	125	122	135
85°	38	46	64	69	69	41
90°	4	28	52	63	64	6
95°	50	82	63	76	86	53
105°	160	233	873	1119	746	169
115°	272	323	750	1556	1819	270
125°	383	433	706	1232	1457	340
135°	470	521	709	1015	1165	362
145°	556	603	714	884	978	349
155°	652	675	728	801	839	299
165°	724	733	748	767	781	203
175°	762	767	762	757	752	72
180°	762	762	762	762	762	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	825.1	825.1	825.1	825.1	825.1
2.5°	817.6	829.5	822.3	824.2	825.1
5°	812.3	827.1	819.3	820.6	826.3
7.5°	804.8	818.5	811.6	813.1	819.7
10°	798.3	812.0	804.1	806.6	812.3
12.5°	789.9	802.7	796.7	799.1	804.8
15°	777.3	788.7	782.0	785.6	791.3
17.5°	758.7	771.0	763.8	765.8	771.5
20°	744.7	756.1	751.7	751.8	757.5
22.5°	727.9	740.2	736.8	734.1	740.7
25°	701.6	713.0	710.9	707.5	712.1
27.5°	675.5	683.9	679.9	676.5	679.9
30°	655.0	665.2	658.5	655.0	658.5
32.5°	632.6	642.8	636.1	631.7	633.3
35°	597.8	607.0	601.3	595.5	595.5
37.5°	565.0	570.9	567.1	557.2	554.7
40°	540.7	547.6	541.9	530.2	526.8
42.5°	515.6	522.4	515.8	503.1	497.9
45°	479.0	483.5	475.5	461.3	454.5
47.5°	441.2	446.0	434.9	419.4	411.2
50°	416.0	421.7	407.9	391.4	382.3
52.5°	391.8	395.7	382.7	363.4	355.2
55°	353.1	357.7	345.0	323.7	313.5
57.5°	317.0	321.3	306.3	286.0	278.1
60°	293.7	297.1	282.0	260.9	252.9
62.5°	267.6	271.0	256.9	238.5	230.5
65°	233.1	234.2	222.6	206.1	200.4
67.5°	200.7	200.7	190.9	178.7	174.1
70°	178.3	178.3	171.3	161.9	157.3
72.5°	157.8	156.9	152.7	146.1	142.4
75°	125.9	125.9	128.2	124.6	122.4
77.5°	97.9	96.1	106.1	105.6	104.4
80°	79.2	79.2	92.1	94.4	93.2
82.5°	62.5	64.3	80.9	84.1	83.0
85°	38.5	46.4	64.1	68.8	68.8
87.5°	17.5	32.3	52.3	59.3	59.5
90°	3.5	27.6	51.5	63.4	64.5
92.5°	18.7	33.7	55.6	71.3	77.1
95°	50.0	81.7	62.8	76.0	86.5
97.5°	82.0	143.4	299.5	107.6	97.8
100°	105.0	176.7	579.5	186.3	132.4
102.5°	127.1	202.6	775.2	455.4	258.1
105°	160.2	233.1	873.3	1118.7	746.1
107.5°	193.3	246.7	831.5	1619.4	1518.4
110°	215.4	266.0	807.5	1699.4	1827.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	238.4	289.0	784.5	1649.7	1863.6
115°	271.8	323.4	750.0	1556.4	1818.8
117.5°	305.8	357.9	741.1	1454.5	1724.4
120°	331.7	381.0	724.9	1377.1	1658.3
122.5°	350.9	403.0	705.7	1311.4	1570.1
125°	383.3	432.6	705.7	1232.1	1457.0
127.5°	409.7	461.3	706.7	1140.0	1362.1
130°	424.1	480.3	710.5	1078.4	1289.3
132.5°	441.4	497.6	709.6	1050.7	1224.1
135°	469.7	521.2	709.3	1014.7	1164.6
137.5°	493.7	549.0	709.3	974.9	1103.3
140°	512.8	564.4	709.3	951.6	1068.8
142.5°	532.0	579.8	713.2	924.6	1034.3
145°	556.0	602.8	714.1	884.0	977.7
147.5°	584.7	626.0	719.9	854.8	926.9
150°	603.9	641.4	723.7	835.3	896.2
152.5°	623.1	656.8	723.7	819.7	869.4
155°	651.8	675.2	728.5	801.2	838.7
157.5°	674.8	697.3	734.3	789.5	816.7
160°	690.2	708.9	738.1	781.8	805.2
162.5°	701.7	720.4	741.9	777.7	793.7
165°	723.7	733.1	747.7	767.2	781.2
167.5°	736.2	744.6	752.5	762.2	770.7
170°	747.7	752.4	752.5	762.2	766.8
172.5°	751.5	759.9	756.3	758.3	763.0
175°	762.1	766.7	762.1	757.2	752.5
177.5°	762.1	765.8	762.1	762.0	758.2
180°	762.1	762.1	762.1	762.1	762.1

(END OF REPORT)