

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P644228

Luminaire Tested: CRQ4DIP-SR4F0-100D50U935-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644228
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-SR4F0-100D50U935-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 500 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

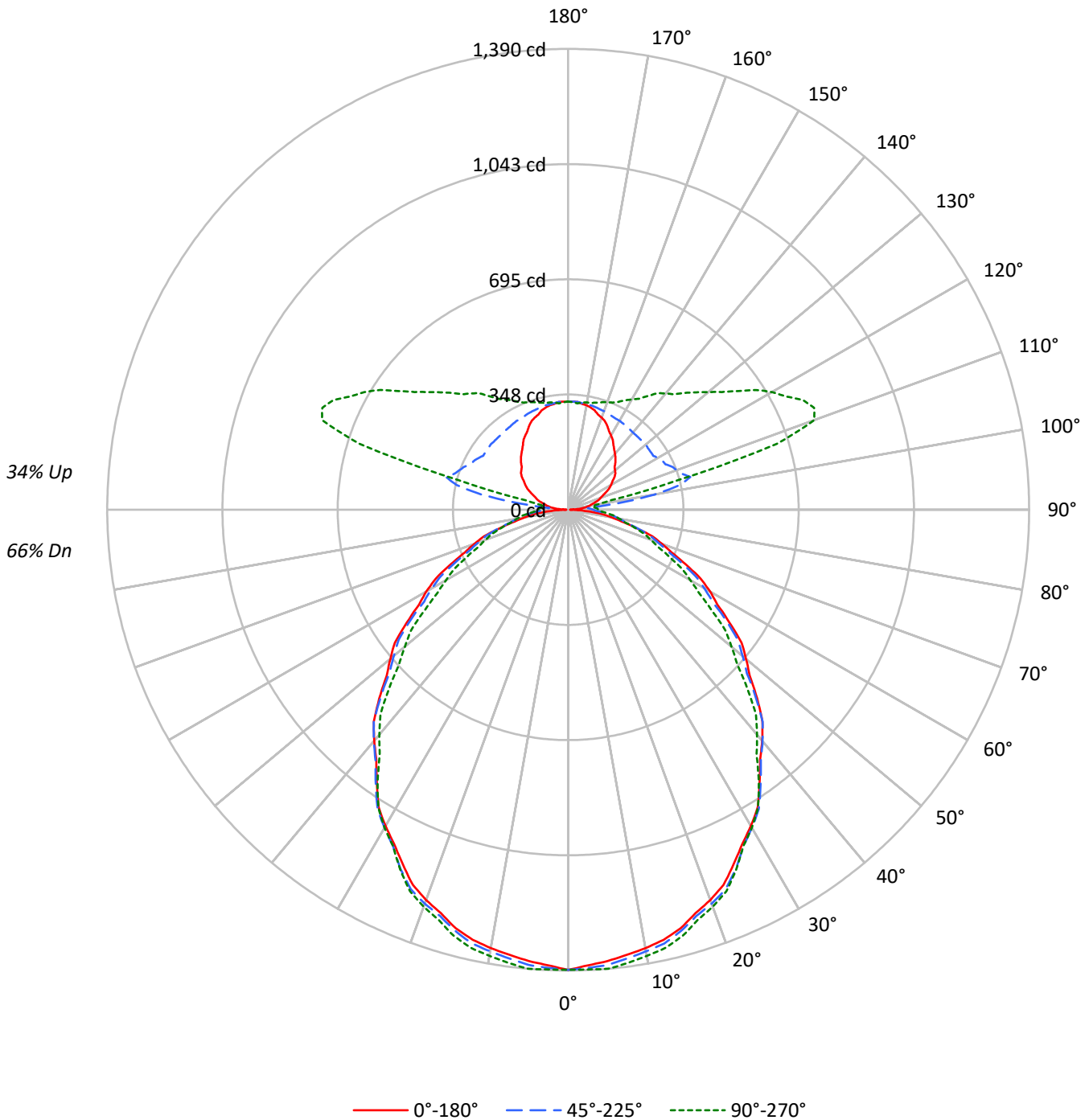
Lumens per Lamp: N/A
Luminaire Lumens: 5331.6 lumens
Efficiency: N/A
Efficacy: 119.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: Semi-Direct

Input Watts (W): 44.5
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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66
1	101	97	92	89	95	91	87	84	81	78	75	71	69	67	62	61	59	55
2	92	84	78	73	86	80	74	69	71	66	63	62	59	56	55	52	50	46
3	84	74	67	61	79	70	63	58	62	57	53	55	51	48	49	45	43	39
4	77	66	58	52	72	62	55	49	56	50	45	49	45	41	44	40	37	34
5	71	59	51	44	66	56	48	43	50	44	39	45	40	36	39	35	32	29
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25	23
8	56	44	36	30	53	42	34	29	38	31	27	34	29	25	30	26	23	21
9	53	40	32	27	49	38	31	26	35	29	24	31	26	23	28	24	21	19
10	49	37	29	25	46	35	28	24	32	26	22	29	24	20	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22410	22410	22410
5°	21987	19787	19174
10°	21698	17605	16563
15°	21380	15766	14488
20°	20890	14143	12671
25°	20239	12629	11042
30°	19599	11160	9584
35°	18730	9815	8226
40°	17921	8592	6973
45°	16984	7385	5820
50°	15992	6255	4774
55°	14942	5263	3850
60°	13940	4313	3077
65°	12709	3440	2436
70°	11524	2695	1924
75°	10074	2071	1517
80°	8417	1540	1181
85°	6139	1120	898

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16984 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.0	2.5
10°-20°	371.8	7.0
20°-30°	548.8	10.3
30°-40°	631.0	11.8
40°-50°	612.1	11.5
50°-60°	512.4	9.6
60°-70°	369.2	6.9
70°-80°	225.6	4.2
80°-90°	110.3	2.1
90°-100°	83.5	1.6
100°-110°	301.5	5.7
110°-120°	393.5	7.4
120°-130°	318.1	6.0
130°-140°	254.3	4.8
140°-150°	200.3	3.8
150°-160°	146.4	2.7
160°-170°	90.9	1.7
170°-180°	31.0	0.6
0°-30°	1051.6	19.7
0°-40°	1682.5	31.6
0°-60°	2807.0	52.6
0°-90°	3512.0	65.9
90°-120°	778.5	14.6
90°-150°	1551.2	29.1
90°-180°	1820.0	34.1
0°-180°	5331.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1366	1391	1378	1380	1390	130
15°	1308	1327	1316	1322	1331	368
25°	1180	1199	1196	1190	1198	544
35°	1006	1021	1012	1002	1002	630
45°	806	813	800	776	765	621
55°	594	602	580	545	527	533
65°	392	394	374	347	337	390
75°	212	212	216	210	206	226
85°	65	78	108	116	116	68
90°	6	40	75	88	90	8
95°	36	48	58	74	79	35
105°	83	106	381	492	336	88
115°	127	143	324	669	782	125
125°	170	188	304	528	624	151
135°	201	223	304	434	499	155
145°	238	258	306	378	419	149
155°	279	289	312	343	359	128
165°	310	314	320	328	334	87
175°	326	328	326	324	322	31
180°	326	326	326	326	326	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.0	<i>1388.0</i>	1388.0	1388.0	1388.0
2.5°	<i>1375.5</i>	<i>1395.4</i>	<i>1383.3</i>	<i>1386.5</i>	<i>1388.0</i>
5°	1366.5	<i>1391.4</i>	1378.2	1380.4	1390.0
7.5°	1353.9	<i>1376.9</i>	1365.3	1367.9	1379.0
10°	1342.9	<i>1365.9</i>	1352.7	1356.9	1366.5
12.5°	1328.8	<i>1350.3</i>	1340.2	1344.3	1353.9
15°	1307.6	<i>1326.8</i>	1315.5	1321.6	1331.2
17.5°	1276.3	<i>1297.0</i>	1284.9	1288.3	1297.8
20°	1252.7	<i>1271.9</i>	1264.5	1264.7	1274.3
22.5°	1224.5	<i>1245.2</i>	1239.4	1235.0	1246.1
25°	1180.2	<i>1199.4</i>	1195.9	1190.2	1197.9
27.5°	1136.3	<i>1150.5</i>	1143.7	1138.0	1143.7
30°	1101.8	<i>1119.0</i>	1107.7	1101.9	1107.7
32.5°	1064.1	<i>1081.4</i>	1070.0	1062.6	1065.3
35°	1005.7	<i>1021.1</i>	1011.6	1001.8	1001.8
37.5°	950.4	<i>960.4</i>	954.0	937.4	933.2
40°	909.7	<i>921.2</i>	911.6	891.9	886.1
42.5°	867.3	<i>878.8</i>	867.7	846.3	837.5
45°	805.8	<i>813.4</i>	799.9	776.1	764.6
47.5°	742.2	<i>750.3</i>	731.6	705.5	691.7
50°	699.9	<i>709.5</i>	686.2	658.4	643.0
52.5°	659.1	<i>665.6</i>	643.8	611.4	597.6
55°	594.0	<i>601.7</i>	580.3	544.6	527.4
57.5°	533.2	<i>540.5</i>	515.2	481.2	467.8
60°	494.0	<i>499.8</i>	474.4	438.8	425.4
62.5°	450.1	<i>455.9</i>	432.1	401.2	387.8
65°	392.1	<i>394.0</i>	374.5	346.8	337.2
67.5°	337.6	<i>337.6</i>	321.1	300.6	292.9
70°	300.0	<i>300.0</i>	288.2	272.3	264.7
72.5°	265.4	<i>263.9</i>	256.8	245.7	239.6
75°	211.7	<i>211.7</i>	215.7	209.7	205.8
77.5°	164.7	<i>161.6</i>	178.4	177.6	175.7
80°	133.3	<i>133.3</i>	154.9	158.8	156.8
82.5°	105.1	<i>108.1</i>	136.1	141.5	139.6
85°	64.7	<i>78.1</i>	107.8	115.7	115.7
87.5°	29.4	<i>53.2</i>	85.5	96.1	96.5
90°	5.9	<i>40.5</i>	74.7	88.5	90.5
92.5°	17.1	<i>36.3</i>	67.1	82.6	87.7
95°	36.0	<i>48.1</i>	57.6	73.5	79.4
97.5°	52.7	<i>70.1</i>	150.4	76.8	74.3
100°	62.5	<i>83.2</i>	265.6	104.7	84.4
102.5°	70.8	<i>93.1</i>	344.7	215.2	132.4
105°	83.2	<i>105.8</i>	381.2	492.2	335.5
107.5°	95.6	<i>110.2</i>	360.0	701.5	659.7
110°	103.9	<i>118.4</i>	348.6	733.4	789.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	113.8	128.3	338.8	709.8	802.8
115°	126.6	143.0	324.0	669.2	781.6
117.5°	139.4	157.7	319.9	623.8	739.4
120°	149.3	167.6	311.8	589.6	709.9
122.5°	157.5	175.8	303.6	561.4	672.2
125°	169.9	188.2	303.6	527.5	623.8
127.5°	179.5	200.4	304.0	488.0	583.1
130°	184.5	208.6	305.6	461.7	551.9
132.5°	189.6	213.6	304.1	449.8	524.0
135°	201.1	223.1	303.7	434.4	498.6
137.5°	211.3	235.0	303.7	417.4	472.3
140°	219.5	241.6	303.7	407.4	457.6
142.5°	227.8	248.2	305.3	395.8	442.8
145°	238.0	258.1	305.7	378.4	418.6
147.5°	250.3	268.0	308.2	365.9	396.8
150°	258.5	274.6	309.8	357.6	383.7
152.5°	266.7	281.2	309.8	350.9	372.2
155°	279.0	289.1	311.9	343.0	359.1
157.5°	288.9	298.5	314.3	338.0	349.6
160°	295.5	303.5	316.0	334.7	344.7
162.5°	300.4	308.4	317.6	333.0	339.8
165°	309.8	313.8	320.1	328.4	334.4
167.5°	315.2	318.8	322.1	326.3	329.9
170°	320.1	322.1	322.1	326.3	328.3
172.5°	321.7	325.3	323.8	324.6	326.7
175°	326.2	328.2	326.2	324.1	322.1
177.5°	326.2	327.8	326.2	326.2	324.6
180°	326.2	326.2	326.2	326.2	326.2

(END OF REPORT)