

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: P644436

Luminaire Tested: CRQ4DIP-SR4F0-75D50U830-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644436  
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-SR4F0-75D50U830-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 500 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

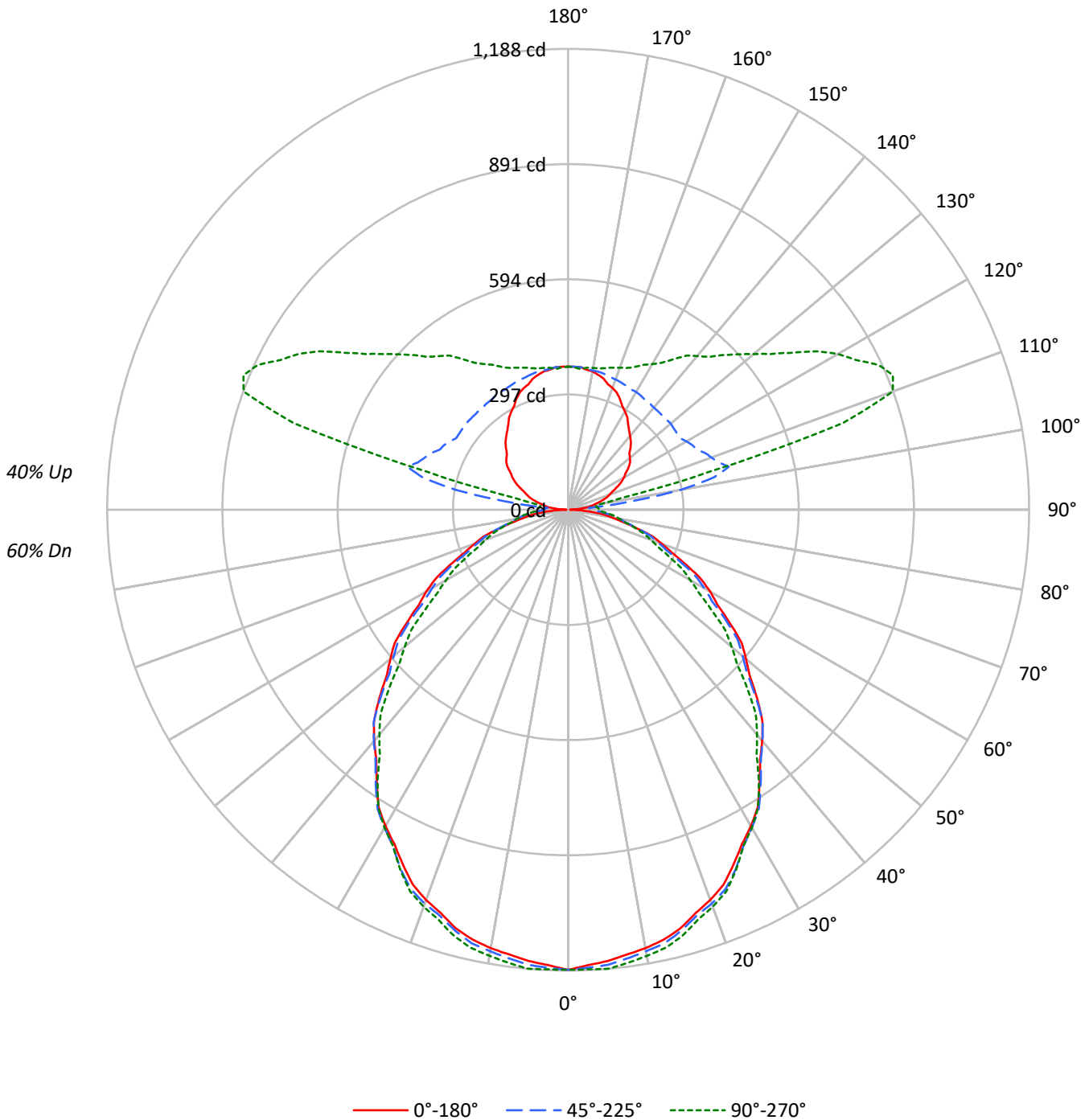
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5040.2 lumens  
Efficiency: N/A  
Efficacy: 138.5 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: General Diffuse

Input Watts (W): 36.4  
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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60																				
1	100	95	91	88	93	89	86	82	77	75	72	67	65	63	57	56	54	50																				
2	91	83	77	72	85	78	72	68	68	64	60	59	56	53	50	48	46	42																				
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	45	42	39	35																				
4	76	65	57	51	71	61	54	48	53	48	43	47	42	39	40	37	34	31																				
5	70	58	50	44	65	55	47	42	48	42	38	42	37	34	36	33	30	27																				
6	64	52	44	38	60	49	42	36	43	37	33	38	33	29	33	29	26	23																				
7	60	47	39	33	56	45	37	32	39	33	29	35	30	26	30	26	23	21																				
8	55	43	35	30	52	41	33	28	36	30	26	32	27	23	28	24	21	19																				
9	52	39	32	27	48	37	30	25	33	27	23	29	24	21	26	22	19	17																				
10	48	36	29	24	45	34	27	23	31	25	21	27	22	19	24	20	17	15																				

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

	0°	45°	90°
0°	19151	19151	19151
5°	18789	16910	16384
10°	18542	15045	14153
15°	18270	13472	12380
20°	17852	12086	10829
25°	17294	10792	9436
30°	16747	9537	8190
35°	16005	8388	7030
40°	15314	7343	5959
45°	14514	6311	4973
50°	13666	5345	4079
55°	12769	4497	3290
60°	11914	3686	2629
65°	10861	2939	2082
70°	9845	2304	1644
75°	8608	1769	1296
80°	7192	1316	1009
85°	5247	956	767

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14514 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.0	2.2
10°-20°	317.7	6.3
20°-30°	469.0	9.3
30°-40°	539.2	10.7
40°-50°	523.0	10.4
50°-60°	437.9	8.7
60°-70°	315.5	6.3
70°-80°	192.7	3.8
80°-90°	94.5	1.9
90°-100°	82.4	1.6
100°-110°	336.6	6.7
110°-120°	443.4	8.8
120°-130°	359.0	7.1
130°-140°	287.4	5.7
140°-150°	226.4	4.5
150°-160°	165.6	3.3
160°-170°	102.8	2.0
170°-180°	35.1	0.7
0°-30°	898.6	17.8
0°-40°	1437.8	28.5
0°-60°	2398.7	47.6
0°-90°	3001.4	59.5
90°-120°	862.5	17.1
90°-150°	1735.3	34.4
90°-180°	2039.0	40.5
0°-180°	5040.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1186	1186	1186	1186	1186	
5°	1168	1189	1178	1180	1188	111
15°	1117	1134	1124	1129	1138	314
25°	1008	1025	1022	1017	1024	465
35°	859	872	864	856	856	538
45°	689	695	684	663	653	531
55°	508	514	496	465	451	455
65°	335	337	320	296	288	333
75°	181	181	184	179	176	193
85°	55	67	92	99	99	58
90°	5	35	65	77	79	7
95°	35	50	54	68	74	35
105°	89	117	428	552	373	94
115°	139	160	365	756	883	138
125°	190	212	343	596	705	169
135°	227	252	343	491	564	175
145°	269	292	346	428	473	169
155°	316	327	353	388	406	145
165°	350	355	362	371	378	98
175°	369	371	369	366	364	35
180°	369	369	369	369	369	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1186.1	<i>1186.1</i>	1186.1	1186.1	1186.1
2.5°	<i>1175.4</i>	<i>1192.4</i>	<i>1182.1</i>	<i>1184.8</i>	<i>1186.1</i>
5°	1167.7	<i>1189.0</i>	1177.8	1179.6	1187.8
7.5°	1157.0	<i>1176.6</i>	1166.7	1168.9	1178.4
10°	1147.6	<i>1167.3</i>	1156.0	1159.5	1167.7
12.5°	1135.5	<i>1153.9</i>	1145.3	1148.8	1157.0
15°	1117.4	<i>1133.8</i>	1124.1	1129.4	1137.5
17.5°	1090.6	<i>1108.3</i>	1098.0	1100.9	1109.1
20°	1070.5	<i>1086.9</i>	1080.6	1080.8	1089.0
22.5°	1046.4	<i>1064.1</i>	1059.1	1055.3	1064.8
25°	1008.5	<i>1024.9</i>	1021.9	1017.1	1023.6
27.5°	971.0	<i>983.1</i>	977.4	972.5	977.4
30°	941.5	<i>956.3</i>	946.6	941.6	946.6
32.5°	909.4	<i>924.1</i>	914.4	908.1	910.4
35°	859.4	<i>872.5</i>	864.5	856.1	856.1
37.5°	812.2	<i>820.7</i>	815.2	801.1	797.5
40°	777.4	<i>787.2</i>	779.0	762.2	757.2
42.5°	741.2	<i>751.0</i>	741.5	723.2	715.7
45°	688.6	<i>695.1</i>	683.5	663.2	653.4
47.5°	634.3	<i>641.2</i>	625.2	602.8	591.1
50°	598.1	<i>606.3</i>	586.4	562.6	549.5
52.5°	563.2	<i>568.8</i>	550.2	522.4	510.6
55°	507.6	<i>514.2</i>	495.9	465.4	450.7
57.5°	455.7	<i>461.9</i>	440.3	411.2	399.7
60°	422.2	<i>427.1</i>	405.4	375.0	363.5
62.5°	384.7	<i>389.6</i>	369.2	342.8	331.4
65°	335.1	<i>336.7</i>	320.0	296.3	288.2
67.5°	288.5	<i>288.5</i>	274.4	256.8	250.3
70°	256.3	<i>256.3</i>	246.3	232.7	226.2
72.5°	226.8	<i>225.5</i>	219.5	210.0	204.7
75°	180.9	<i>180.9</i>	184.3	179.2	175.9
77.5°	140.7	<i>138.1</i>	152.5	151.7	150.1
80°	113.9	<i>113.9</i>	132.4	135.7	134.0
82.5°	89.8	<i>92.4</i>	116.3	120.9	119.3
85°	55.3	<i>66.8</i>	92.1	98.8	98.8
87.5°	25.1	<i>45.6</i>	73.3	82.5	82.8
90°	5.0	<i>35.1</i>	65.0	77.4	79.0
92.5°	16.0	<i>33.0</i>	59.8	74.1	78.9
95°	35.3	<i>49.6</i>	53.7	67.9	74.1
97.5°	53.0	<i>76.0</i>	161.9	75.5	72.0
100°	64.2	<i>91.3</i>	293.9	109.1	85.2
102.5°	74.0	<i>102.9</i>	385.0	235.8	141.6
105°	88.7	<i>117.4</i>	428.3	551.6	373.4
107.5°	103.4	<i>122.9</i>	405.6	790.1	742.3
110°	113.2	<i>132.2</i>	393.1	827.1	889.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	124.3	143.3	382.0	801.2	905.8
115°	139.3	160.0	365.3	755.6	882.6
117.5°	154.5	176.7	360.7	704.9	835.6
120°	166.1	187.8	352.0	666.6	802.7
122.5°	175.4	197.6	342.7	634.8	760.0
125°	190.0	211.6	342.7	596.4	705.2
127.5°	201.4	225.5	343.2	551.8	659.3
130°	207.5	234.7	345.0	522.0	624.1
132.5°	214.1	241.3	343.7	508.6	592.5
135°	227.3	252.3	343.3	491.1	563.7
137.5°	238.9	265.7	343.3	471.9	534.0
140°	248.2	273.2	343.3	460.6	517.3
142.5°	257.5	280.6	345.2	447.6	500.6
145°	269.1	291.8	345.7	427.9	473.3
147.5°	283.0	303.0	348.4	413.7	448.7
150°	292.3	310.5	350.3	404.3	433.8
152.5°	301.6	317.9	350.3	396.8	420.8
155°	315.5	326.8	352.6	387.8	406.0
157.5°	326.6	337.5	355.4	382.2	395.3
160°	334.1	343.1	357.3	378.4	389.7
162.5°	339.6	348.7	359.1	376.5	384.2
165°	350.3	354.8	361.9	371.3	378.1
167.5°	356.3	360.4	364.2	369.0	373.0
170°	361.9	364.2	364.2	368.9	371.2
172.5°	363.8	367.8	366.1	367.1	369.3
175°	368.9	371.1	368.9	366.5	364.2
177.5°	368.9	370.7	368.9	368.8	367.0
180°	368.9	368.9	368.9	368.9	368.9

(END OF REPORT)