

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: P644423

Luminaire Tested: CRQ4DIP-SR4F0-75D25U830-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644423  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-75D25U830-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 250 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

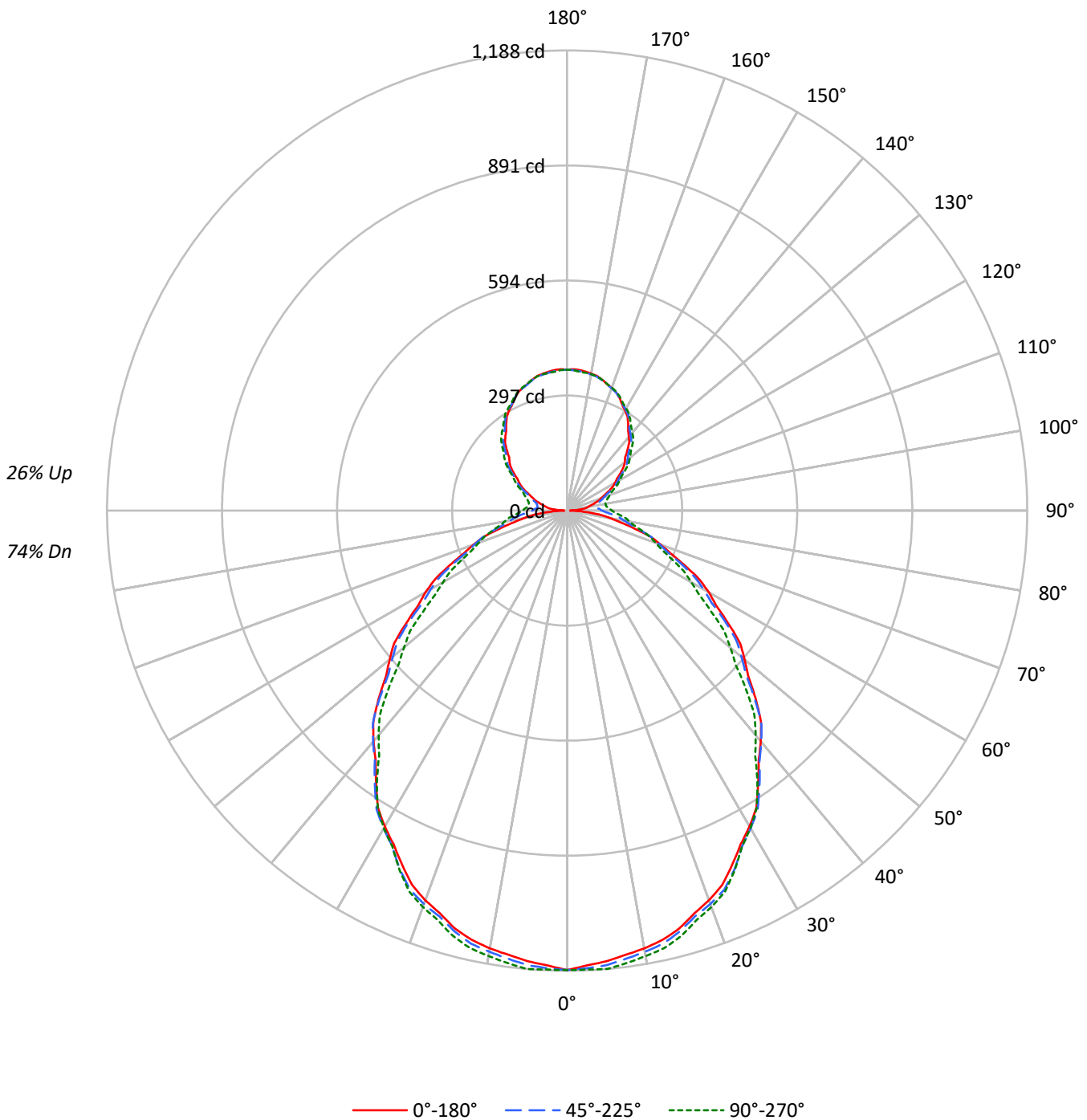
Lumens per Lamp: N/A  
Luminaire Lumens: 4131.9 lumens  
Efficiency: N/A  
Efficacy: 137.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

Input Watts (W): 30.1  
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	113	113	113	113	107	107	107	107	96	96	96	87	87	87	78	78	78	74
1	103	98	94	90	97	93	89	86	84	81	78	76	73	71	68	66	65	61
2	93	85	79	73	88	81	76	71	74	69	65	66	63	60	60	57	55	51
3	85	75	68	61	81	72	65	59	65	59	55	59	54	51	53	50	47	43
4	78	67	59	52	74	64	56	50	58	52	47	53	48	44	48	44	40	37
5	72	60	51	45	68	57	49	44	52	46	41	47	42	38	43	39	35	33
6	66	54	45	39	63	52	44	38	47	41	36	43	38	33	39	35	31	29
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	36	31	28	25
8	57	45	36	31	54	43	35	30	39	33	28	36	31	27	33	28	25	23
9	54	41	33	28	51	39	32	27	36	30	26	33	28	24	31	26	23	21
10	50	38	30	25	48	36	29	24	33	27	23	31	26	22	28	24	21	19

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

	0°	45°	90°
0°	19151	19151	19151
5°	18789	16910	16384
10°	18542	15050	14153
15°	18270	13477	12380
20°	17852	12091	10829
25°	17294	10792	9436
30°	16747	9544	8190
35°	16005	8398	7030
40°	15314	7346	5959
45°	14514	6314	4973
50°	13666	5355	4079
55°	12769	4505	3310
60°	11914	3701	2674
65°	10861	2974	2160
70°	9845	2364	1762
75°	8608	1877	1464
80°	7192	1488	1236
85°	5247	1214	1067

**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	2.7
10°-20°	317.7	7.7
20°-30°	469.1	11.4
30°-40°	539.5	13.1
40°-50°	523.4	12.7
50°-60°	439.2	10.6
60°-70°	320.6	7.8
70°-80°	205.0	5.0
80°-90°	117.3	2.8
90°-100°	80.3	1.9
100°-110°	92.6	2.2
110°-120°	124.6	3.0
120°-130°	157.9	3.8
130°-140°	177.1	4.3
140°-150°	174.8	4.2
150°-160°	147.9	3.6
160°-170°	98.4	2.4
170°-180°	34.4	0.8
0°-30°	898.8	21.8
0°-40°	1438.3	34.8
0°-60°	2400.9	58.1
0°-90°	3043.8	73.7
90°-120°	297.5	7.2
90°-150°	807.4	19.5
90°-180°	1088.0	26.3
0°-180°	4131.9	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	1135	1124	1129	1138	314
25°	1008	1026	1022	1017	1024	465
35°	859	874	866	856	856	538
45°	689	696	684	663	653	531
55°	508	516	497	467	453	455
65°	335	339	324	305	299	333
75°	181	184	196	199	199	193
85°	55	76	117	134	137	58
90°	8	46	90	110	116	8
95°	34	40	78	100	103	32
105°	74	69	85	101	106	78
115°	118	117	125	133	135	117
125°	168	171	177	182	184	150
135°	220	225	229	235	238	170
145°	274	278	280	282	284	171
155°	320	322	321	321	323	147
165°	350	351	349	348	350	99
175°	364	366	361	360	360	35
180°	364	364	364	364	364	



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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>1182.4</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>1176.9</i>	1167.1	1168.9	1178.4
10°	1147.6	<i>1167.3</i>	1156.4	1159.5	1167.7
12.5°	1135.5	<i>1154.5</i>	1145.3	1148.8	1157.0
15°	1117.4	<i>1134.6</i>	1124.5	1129.4	1137.5
17.5°	1090.6	<i>1108.7</i>	1098.4	1100.9	1109.1
20°	1070.5	<i>1087.3</i>	1081.0	1080.8	1089.0
22.5°	1046.4	<i>1064.5</i>	1059.5	1055.3	1064.8
25°	1008.5	<i>1025.7</i>	1021.9	1017.1	1023.6
27.5°	971.0	<i>984.5</i>	977.8	972.5	977.4
30°	941.5	<i>957.0</i>	947.3	941.6	946.6
32.5°	909.4	<i>925.2</i>	915.2	908.1	910.4
35°	859.4	<i>873.7</i>	865.6	856.1	856.1
37.5°	812.2	<i>822.2</i>	815.6	801.1	797.5
40°	777.4	<i>788.7</i>	779.4	762.2	757.2
42.5°	741.2	<i>752.5</i>	742.2	723.2	715.7
45°	688.6	<i>696.2</i>	683.9	663.2	653.4
47.5°	634.3	<i>642.6</i>	625.8	602.8	591.1
50°	598.1	<i>607.4</i>	587.5	562.6	549.5
52.5°	563.2	<i>570.2</i>	551.0	522.7	511.3
55°	507.6	<i>515.7</i>	496.7	466.6	453.4
57.5°	455.7	<i>463.4</i>	441.5	414.7	404.1
60°	422.2	<i>428.6</i>	407.0	380.1	369.7
62.5°	384.7	<i>391.4</i>	371.4	349.4	339.7
65°	335.1	<i>339.0</i>	323.8	305.3	299.0
67.5°	288.5	<i>290.8</i>	279.7	268.6	264.3
70°	256.3	<i>258.6</i>	252.8	246.3	242.4
72.5°	226.8	<i>228.1</i>	228.2	226.0	223.4
75°	180.9	<i>184.0</i>	195.5	198.9	198.7
77.5°	140.7	<i>142.2</i>	167.0	175.7	177.1
80°	113.9	<i>119.2</i>	149.7	162.4	164.1
82.5°	89.8	<i>98.9</i>	136.1	151.0	152.8
85°	55.3	<i>75.8</i>	116.9	134.1	137.4
87.5°	25.7	<i>56.8</i>	100.5	119.7	123.8
90°	7.7	<i>45.8</i>	89.7	110.2	115.7
92.5°	18.3	<i>42.1</i>	83.9	104.2	109.7
95°	34.1	<i>40.4</i>	78.0	99.5	103.4
97.5°	47.5	<i>44.7</i>	77.3	96.3	100.4
100°	55.2	<i>50.2</i>	78.4	96.1	100.9
102.5°	62.5	<i>56.6</i>	80.4	97.6	101.6
105°	73.5	<i>69.0</i>	85.2	101.3	105.7
107.5°	85.9	<i>81.8</i>	94.2	108.1	111.3
110°	94.1	<i>91.9</i>	101.8	113.7	117.2

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	104.3	102.1	110.8	120.0	123.5
115°	117.9	117.4	125.3	132.7	134.6
117.5°	131.9	133.2	140.1	145.8	147.6
120°	142.3	144.3	149.9	155.2	156.7
122.5°	152.5	154.1	160.7	166.0	167.5
125°	167.7	170.8	177.3	182.3	183.8
127.5°	183.0	187.5	193.5	198.5	200.4
130°	194.1	199.0	204.0	209.3	211.6
132.5°	203.1	208.0	213.4	219.8	222.4
135°	220.0	225.0	229.3	235.2	237.8
137.5°	236.8	241.6	244.9	249.5	252.9
140°	248.2	252.4	254.8	259.1	262.1
142.5°	258.7	262.9	264.7	268.4	271.4
145°	274.5	277.9	279.5	281.5	284.5
147.5°	289.2	292.6	293.2	295.0	296.9
150°	298.8	301.8	301.9	302.7	304.6
152.5°	307.8	310.5	309.6	310.1	312.3
155°	320.4	322.3	320.8	321.2	323.1
157.5°	330.5	332.3	330.0	330.7	332.2
160°	336.6	338.5	335.9	336.3	337.8
162.5°	342.5	343.8	341.4	340.9	343.0
165°	349.8	351.3	348.6	347.5	349.8
167.5°	355.9	357.4	353.9	352.7	355.0
170°	359.0	360.5	356.7	355.2	357.5
172.5°	361.8	363.3	359.2	357.4	359.0
175°	364.4	365.9	361.3	359.8	359.8
177.5°	365.2	366.1	362.7	361.2	363.0
180°	363.7	363.7	363.7	363.7	363.7

(END OF REPORT)