

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: P644440

Luminaire Tested: CRQ4DIP-SR4F0-75D50U840-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644440  
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-SR4F0-75D50U840-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: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

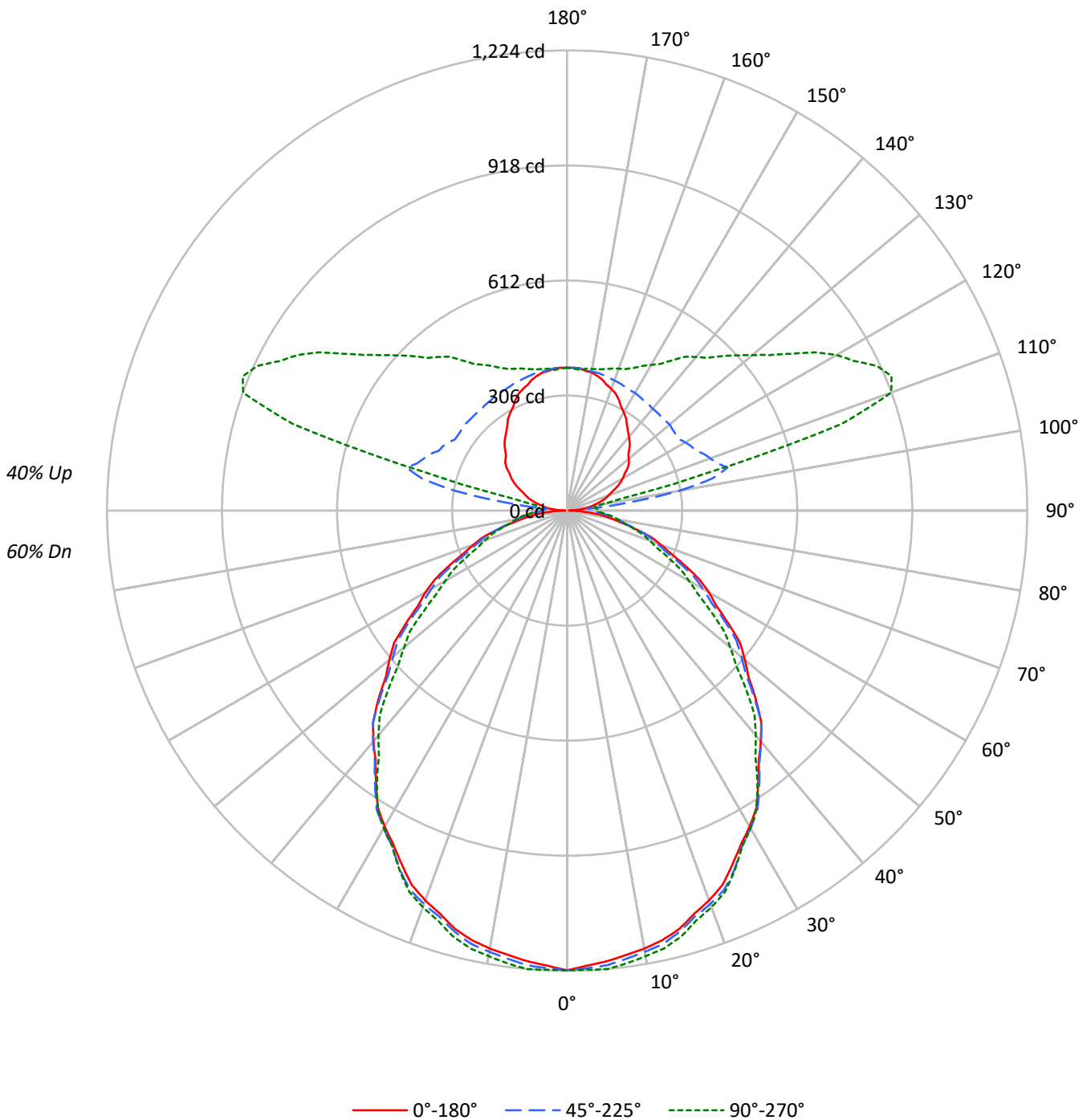
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5195.1 lumens  
Efficiency: N/A  
Efficacy: 142.7 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: 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					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	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°	19740	19740	19740
5°	19366	17430	16888
10°	19113	15507	14588
15°	18832	13887	12761
20°	18401	12458	11161
25°	17828	11124	9726
30°	17263	9830	8442
35°	16499	8645	7246
40°	15783	7569	6142
45°	14959	6504	5126
50°	14087	5509	4205
55°	13161	4635	3391
60°	12281	3800	2710
65°	11195	3029	2145
70°	10149	2374	1694
75°	8874	1824	1336
80°	7413	1356	1040
85°	5408	987	791

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14959 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.4	2.2
10°-20°	327.5	6.3
20°-30°	483.4	9.3
30°-40°	555.8	10.7
40°-50°	539.1	10.4
50°-60°	451.3	8.7
60°-70°	325.2	6.3
70°-80°	198.7	3.8
80°-90°	97.4	1.9
90°-100°	84.9	1.6
100°-110°	346.9	6.7
110°-120°	457.1	8.8
120°-130°	370.1	7.1
130°-140°	296.3	5.7
140°-150°	233.4	4.5
150°-160°	170.7	3.3
160°-170°	106.0	2.0
170°-180°	36.1	0.7
0°-30°	926.3	17.8
0°-40°	1482.0	28.5
0°-60°	2472.5	47.6
0°-90°	3093.7	59.5
90°-120°	888.9	17.1
90°-150°	1788.7	34.4
90°-180°	2101.0	40.4
0°-180°	5195.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1223	1223	1223	1223	1223	
5°	1204	1226	1214	1216	1224	114
15°	1152	1169	1159	1164	1172	324
25°	1040	1056	1053	1048	1055	479
35°	886	899	891	882	882	555
45°	710	716	704	684	674	547
55°	523	530	511	480	464	469
65°	345	347	330	306	297	344
75°	186	186	190	185	181	199
85°	57	69	95	102	102	60
90°	5	36	67	80	81	7
95°	36	51	55	70	76	36
105°	91	121	441	568	385	96
115°	144	165	376	779	910	142
125°	196	218	353	615	727	174
135°	234	260	354	506	581	181
145°	277	301	356	441	488	174
155°	325	337	364	400	418	149
165°	361	366	373	383	390	101
175°	380	382	380	378	375	36
180°	380	380	380	380	380	



TEST NUMBER: P644440

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1222.6	1222.6	1222.6	1222.6	1222.6
2.5°	1211.5	1229.1	1218.5	1221.2	1222.6
5°	1203.6	1225.5	1214.0	1215.9	1224.3
7.5°	1192.5	1212.8	1202.6	1204.9	1214.7
10°	1182.9	1203.1	1191.5	1195.2	1203.6
12.5°	1170.4	1189.4	1180.5	1184.1	1192.5
15°	1151.8	1168.7	1158.7	1164.1	1172.5
17.5°	1124.2	1142.4	1131.8	1134.7	1143.2
20°	1103.4	1120.3	1113.8	1114.0	1122.4
22.5°	1078.6	1096.8	1091.7	1087.8	1097.6
25°	1039.6	1056.4	1053.4	1048.3	1055.1
27.5°	1000.9	1013.4	1007.4	1002.4	1007.4
30°	970.5	985.7	975.7	970.6	975.7
32.5°	937.3	952.5	942.5	936.0	938.4
35°	885.9	899.4	891.0	882.4	882.4
37.5°	837.2	845.9	840.3	825.7	822.0
40°	801.2	811.4	803.0	785.6	780.5
42.5°	763.9	774.1	764.3	745.5	737.7
45°	709.7	716.5	704.5	683.6	673.5
47.5°	653.8	660.9	644.5	621.4	609.2
50°	616.5	624.9	604.4	579.9	566.4
52.5°	580.6	586.3	567.1	538.5	526.3
55°	523.2	530.0	511.1	479.7	464.5
57.5°	469.7	476.1	453.8	423.8	412.0
60°	435.2	440.2	417.9	386.5	374.7
62.5°	396.5	401.5	380.6	353.4	341.6
65°	345.4	347.1	329.8	305.5	297.0
67.5°	297.4	297.4	282.9	264.7	258.0
70°	264.2	264.2	253.8	239.9	233.1
72.5°	233.8	232.5	226.2	216.4	211.0
75°	186.5	186.5	190.0	184.7	181.3
77.5°	145.1	142.4	157.1	156.4	154.7
80°	117.4	117.4	136.4	139.8	138.1
82.5°	92.6	95.3	119.8	124.6	123.0
85°	57.0	68.8	95.0	101.9	101.9
87.5°	25.9	47.0	75.6	85.0	85.4
90°	5.2	36.2	66.9	79.7	81.4
92.5°	16.4	34.0	61.6	76.4	81.3
95°	36.4	51.1	55.4	70.0	76.4
97.5°	54.7	78.3	166.9	77.8	74.2
100°	66.2	94.1	302.9	112.5	87.8
102.5°	76.3	106.0	396.8	243.0	145.9
105°	91.4	121.0	441.4	568.5	384.8
107.5°	106.5	126.7	418.0	814.4	765.1
110°	116.6	136.3	405.2	852.5	917.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	128.1	147.7	393.7	825.8	933.7
115°	143.6	164.9	376.5	778.8	909.7
117.5°	159.2	182.1	371.8	726.6	861.3
120°	171.2	193.6	362.8	687.1	827.4
122.5°	180.8	203.7	353.2	654.3	783.4
125°	195.8	218.2	353.2	614.7	726.9
127.5°	207.6	232.4	353.7	568.8	679.6
130°	213.9	241.9	355.6	538.0	643.2
132.5°	220.7	248.7	354.2	524.2	610.7
135°	234.3	260.1	353.9	506.2	581.1
137.5°	246.3	273.9	353.9	486.4	550.5
140°	255.9	281.6	353.9	474.8	533.2
142.5°	265.4	289.3	355.8	461.3	516.0
145°	277.4	300.8	356.3	441.0	487.8
147.5°	291.7	312.3	359.2	426.5	462.5
150°	301.3	320.0	361.1	416.8	447.2
152.5°	310.9	327.7	361.1	409.0	433.8
155°	325.2	336.9	363.5	399.8	418.5
157.5°	336.7	347.9	366.3	393.9	407.5
160°	344.3	353.7	368.2	390.0	401.7
162.5°	350.1	359.4	370.2	388.0	396.0
165°	361.1	365.7	373.0	382.8	389.8
167.5°	367.3	371.5	375.4	380.3	384.5
170°	373.0	375.4	375.4	380.3	382.6
172.5°	374.9	379.1	377.3	378.3	380.7
175°	380.2	382.5	380.2	377.8	375.4
177.5°	380.2	382.1	380.2	380.2	378.3
180°	380.2	380.2	380.2	380.2	380.2

(END OF REPORT)