

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: P644430

Luminaire Tested: CRQ4DIP-SR4F0-75D25U930-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644430  
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-SR4F0-75D25U930-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 250 LUMENS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

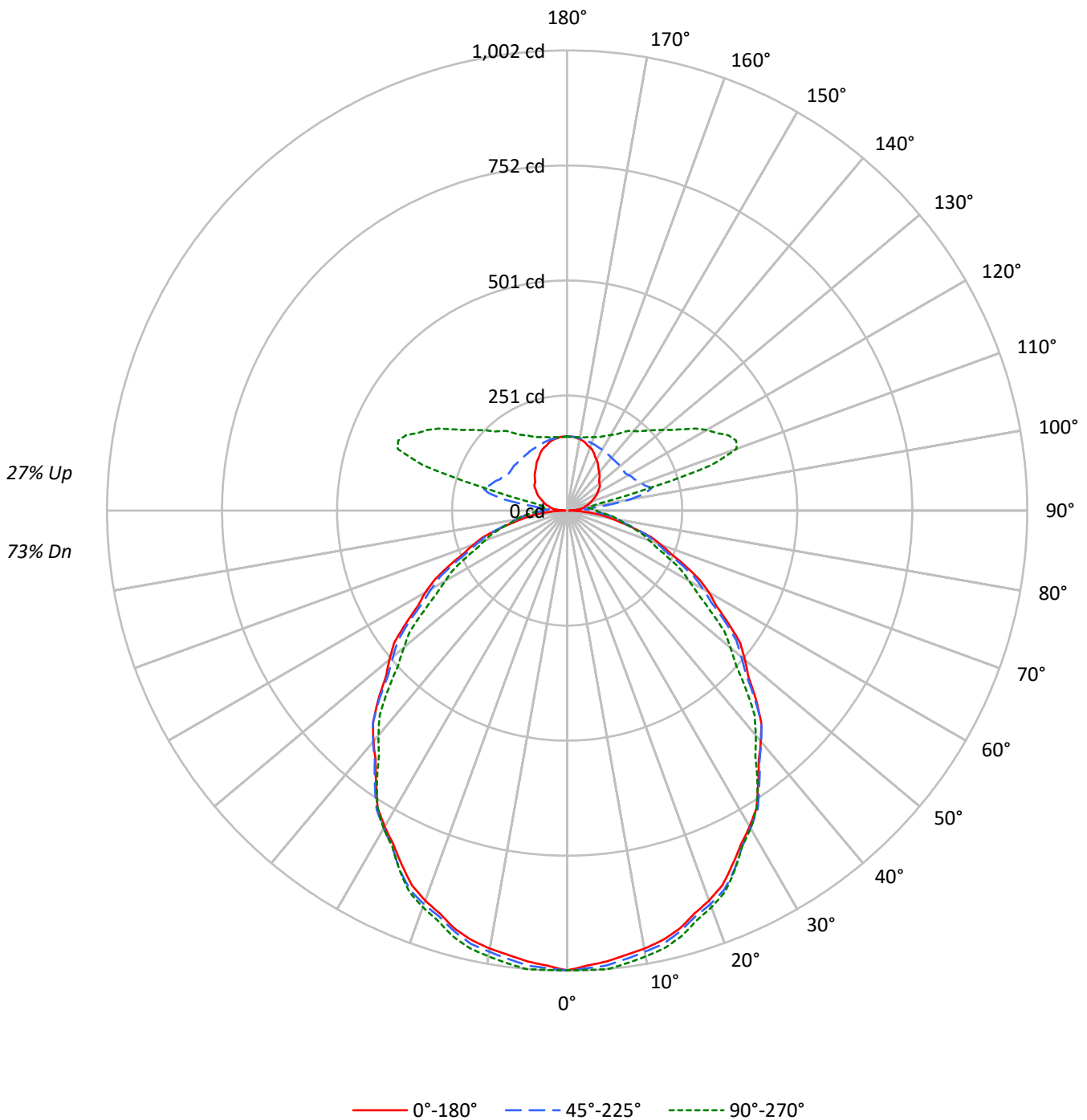
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3447.6 lumens  
Efficiency: N/A  
Efficacy: 114.5 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: 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										
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	113	113	113	113	107	107	107	107	96	96	96	87	87	87	78	78	78	73																				
1	103	98	94	90	97	93	90	86	84	81	79	76	74	72	68	67	65	61																				
2	94	86	79	74	89	82	76	71	74	69	65	67	63	60	60	57	55	51																				
3	86	76	68	62	81	72	65	60	65	60	55	59	55	51	53	50	47	44																				
4	78	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	41	38																				
5	72	60	52	45	68	57	50	44	52	46	41	48	42	38	43	39	36	33																				
6	67	54	46	40	63	52	44	38	47	41	36	43	38	34	39	35	31	29																				
7	62	49	41	35	59	47	39	34	43	37	32	39	34	30	36	32	28	26																				
8	58	45	37	31	55	43	35	30	39	33	29	36	31	27	33	29	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	25	34	28	23	31	26	22	29	24	21	19																				

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

	0°	45°	90°
0°	16162	16162	16162
5°	15857	14271	13828
10°	15649	12697	11945
15°	15420	11370	10448
20°	15067	10201	9138
25°	14597	9108	7963
30°	14134	8049	6913
35°	13508	7079	5933
40°	12923	6197	5030
45°	12248	5326	4197
50°	11534	4511	3443
55°	10777	3795	2776
60°	10054	3111	2219
65°	9166	2481	1757
70°	8309	1944	1388
75°	7266	1493	1094
80°	6068	1110	852
85°	4431	808	648

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12248 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.5	2.7
10°-20°	268.1	7.8
20°-30°	395.8	11.5
30°-40°	455.1	13.2
40°-50°	441.4	12.8
50°-60°	369.5	10.7
60°-70°	266.2	7.7
70°-80°	162.7	4.7
80°-90°	79.4	2.3
90°-100°	51.1	1.5
100°-110°	152.7	4.4
110°-120°	195.8	5.7
120°-130°	157.8	4.6
130°-140°	125.8	3.6
140°-150°	99.0	2.9
150°-160°	72.4	2.1
160°-170°	45.0	1.3
170°-180°	15.3	0.4
0°-30°	758.4	22.0
0°-40°	1213.5	35.2
0°-60°	2024.4	58.7
0°-90°	2532.7	73.5
90°-120°	399.6	11.6
90°-150°	782.2	22.7
90°-180°	915.0	26.5
0°-180°	3447.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1001	1001	1001	1001	1001	
5°	986	1004	994	996	1002	94
15°	943	957	949	953	960	265
25°	851	865	862	858	864	392
35°	725	736	730	722	722	454
45°	581	587	577	560	551	448
55°	428	434	418	393	380	384
65°	283	284	270	250	243	281
75°	153	153	156	151	148	163
85°	47	56	78	83	83	49
90°	4	29	53	62	64	6
95°	22	28	38	49	52	21
105°	46	54	191	247	171	48
115°	66	72	161	332	387	65
125°	86	94	150	261	308	76
135°	99	110	150	215	246	77
145°	118	128	151	187	207	74
155°	138	143	154	170	178	63
165°	153	155	158	162	165	43
175°	161	162	161	160	159	15
180°	161	161	161	161	161	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1001.0	1001.0	1001.0	1001.0	1001.0
2.5°	992.0	1006.4	997.6	999.9	1001.0
5°	985.5	1003.5	994.0	995.5	1002.5
7.5°	976.4	993.0	984.6	986.5	994.5
10°	968.5	985.1	975.6	978.6	985.5
12.5°	958.3	973.8	966.5	969.5	976.4
15°	943.1	956.9	948.7	953.1	960.0
17.5°	920.4	935.4	926.7	929.1	936.0
20°	903.5	917.3	912.0	912.1	919.0
22.5°	883.1	898.0	893.9	890.7	898.7
25°	851.2	865.0	862.5	858.4	863.9
27.5°	819.5	829.7	824.9	820.7	824.9
30°	794.6	807.1	798.9	794.7	798.9
32.5°	767.5	779.9	771.7	766.4	768.3
35°	725.3	736.4	729.6	722.5	722.5
37.5°	685.5	692.6	688.0	676.1	673.0
40°	656.0	664.3	657.5	643.2	639.1
42.5°	625.5	633.8	625.8	610.4	604.0
45°	581.1	586.6	576.9	559.7	551.4
47.5°	535.3	541.1	527.7	508.8	498.8
50°	504.8	511.7	494.9	474.8	463.8
52.5°	475.4	480.1	464.3	440.9	431.0
55°	428.4	433.9	418.5	392.8	380.3
57.5°	384.6	389.8	371.6	347.0	337.4
60°	356.3	360.4	342.2	316.5	306.8
62.5°	324.6	328.8	311.6	289.3	279.7
65°	282.8	284.2	270.1	250.1	243.2
67.5°	243.5	243.5	231.6	216.8	211.2
70°	216.3	216.3	207.8	196.4	190.9
72.5°	191.4	190.3	185.2	177.2	172.8
75°	152.7	152.7	155.5	151.2	148.5
77.5°	118.8	116.6	128.7	128.1	126.7
80°	96.1	96.1	111.7	114.5	113.1
82.5°	75.8	78.0	98.1	102.1	100.7
85°	46.7	56.3	77.8	83.4	83.4
87.5°	21.2	38.3	61.5	69.0	69.3
90°	4.2	28.7	52.9	62.5	63.8
92.5°	11.2	24.6	46.3	56.7	60.0
95°	22.3	27.8	37.8	48.8	52.2
97.5°	31.4	37.3	81.1	47.3	46.6
100°	36.2	43.4	136.7	59.3	50.2
102.5°	40.0	48.0	174.4	112.5	72.1
105°	45.6	54.2	190.7	247.4	170.8
107.5°	51.2	55.9	179.3	349.3	329.1
110°	54.9	59.9	173.3	364.4	392.6

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	59.8	64.8	168.4	352.0	398.4
115°	65.7	72.1	161.1	331.8	387.3
117.5°	71.5	79.3	159.0	308.8	365.9
120°	76.1	84.2	154.6	291.5	351.0
122.5°	80.1	87.9	150.5	277.6	332.3
125°	85.8	93.9	150.5	260.8	308.4
127.5°	90.0	100.0	150.7	241.3	288.3
130°	92.1	104.0	151.6	228.3	272.9
132.5°	93.9	105.8	150.4	222.4	259.1
135°	99.4	110.3	150.1	214.8	246.5
137.5°	104.5	116.2	150.1	206.4	233.5
140°	108.6	119.5	150.1	201.4	226.2
142.5°	112.6	122.7	151.0	195.7	218.9
145°	117.7	127.6	151.2	187.1	207.0
147.5°	123.8	132.5	152.4	180.9	196.2
150°	127.8	135.8	153.2	176.8	189.7
152.5°	131.9	139.0	153.2	173.5	184.0
155°	138.0	142.9	154.2	169.6	177.5
157.5°	142.8	147.6	155.4	167.1	172.9
160°	146.1	150.1	156.2	165.5	170.4
162.5°	148.5	152.5	157.0	164.6	168.0
165°	153.2	155.2	158.3	162.4	165.4
167.5°	155.8	157.6	159.3	161.3	163.1
170°	158.3	159.3	159.3	161.3	162.3
172.5°	159.1	160.9	160.1	160.5	161.5
175°	161.3	162.3	161.3	160.3	159.3
177.5°	161.3	162.1	161.3	161.3	160.5
180°	161.3	161.3	161.3	161.3	161.3

(END OF REPORT)