

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: P644239

Luminaire Tested: CRQ4DIP-SR4F0-100D75U935-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644239  
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-SR4F0-100D75U935-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

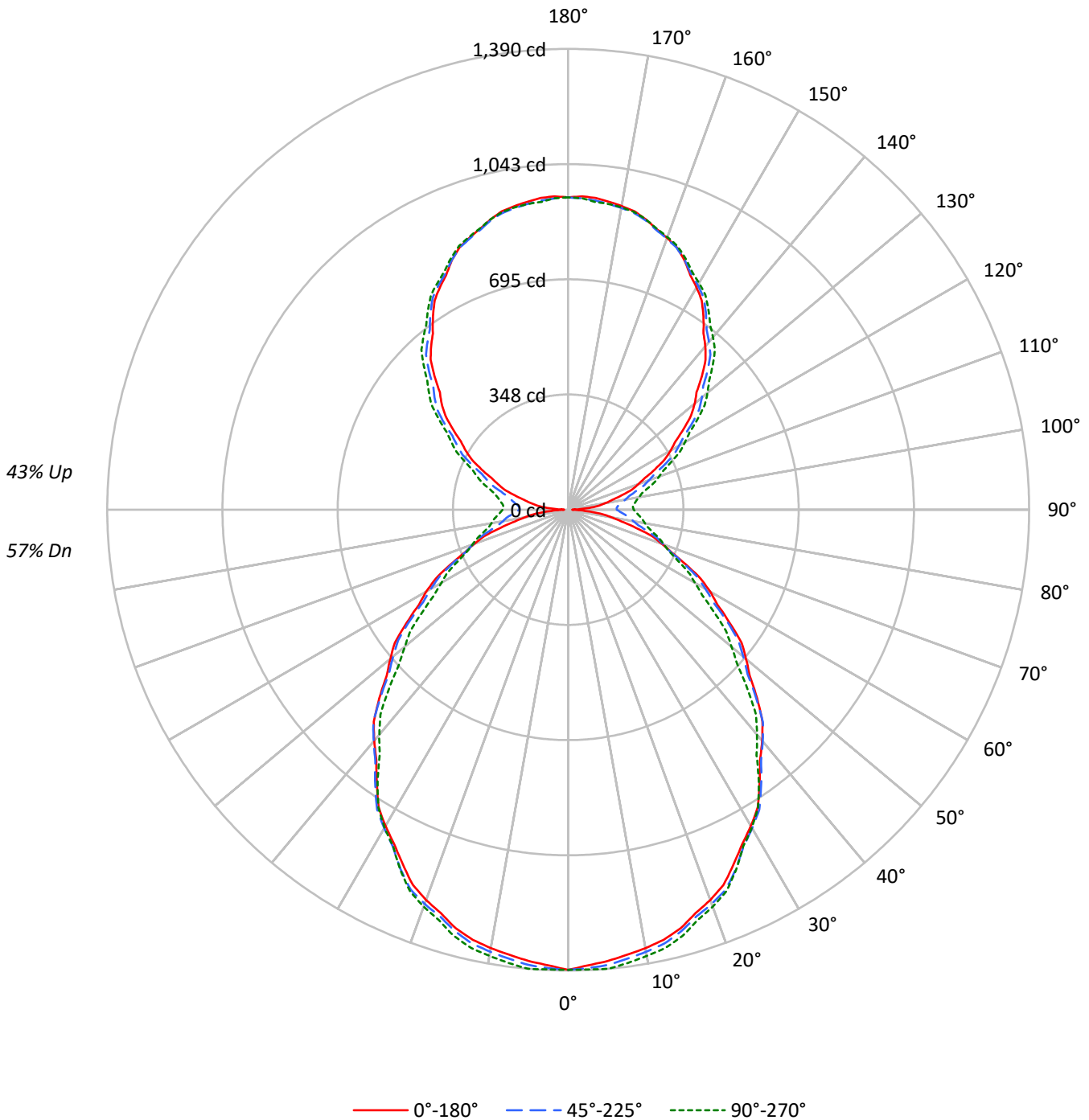
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6360.5 lumens  
Efficiency: N/A  
Efficacy: 125.5 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): 50.7  
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	101	101	101	101	87	87	87	74	74	74	63	63	63	57																				
1	99	94	90	86	92	88	84	81	76	73	70	64	63	61	54	53	52	47																				
2	90	82	76	70	83	77	71	66	66	62	58	57	53	51	48	45	43	39																				
3	82	72	65	59	76	67	61	55	58	53	49	50	46	43	42	39	37	33																				
4	75	64	56	50	70	60	53	47	52	46	42	45	40	37	38	35	32	28																				
5	69	57	49	43	64	53	46	40	47	41	36	40	36	32	34	31	28	25																				
6	64	51	43	37	59	48	41	35	42	36	32	36	32	28	31	27	25	22																				
7	59	46	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19																				
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17																				
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	21	18	16																				
10	48	35	28	23	44	33	27	22	30	24	20	26	21	18	22	19	16	14																				

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

	0°	45°	90°
0°	22410	22410	22410
5°	21987	19787	19174
10°	21698	17618	16563
15°	21380	15778	14488
20°	20890	14155	12671
25°	20239	12629	11042
30°	19599	11180	9584
35°	18730	9844	8226
40°	17921	8602	6973
45°	16984	7394	5820
50°	15992	6282	4774
55°	14942	5281	3901
60°	13940	4350	3193
65°	12709	3532	2638
70°	11524	2854	2229
75°	10074	2349	1952
80°	8417	1987	1769
85°	6139	1784	1675

**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	2.1
10°-20°	371.9	5.8
20°-30°	549.1	8.6
30°-40°	631.7	9.9
40°-50°	613.0	9.6
50°-60°	515.7	8.1
60°-70°	382.5	6.0
70°-80°	257.4	4.0
80°-90°	170.8	2.7
90°-100°	155.5	2.4
100°-110°	220.8	3.5
110°-120°	316.1	5.0
120°-130°	406.3	6.4
130°-140°	458.4	7.2
140°-150°	452.8	7.1
150°-160°	383.0	6.0
160°-170°	255.0	4.0
170°-180°	89.2	1.4
0°-30°	1052.1	16.5
0°-40°	1683.9	26.5
0°-60°	2812.6	44.2
0°-90°	3623.3	57.0
90°-120°	692.4	10.9
90°-150°	2009.9	31.6
90°-180°	2737.0	43.0
0°-180°	6360.5	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	1329	1316	1322	1331	368
25°	1180	1201	1196	1190	1198	544
35°	1006	1024	1015	1002	1002	630
45°	806	816	801	776	765	621
55°	594	606	582	548	534	533
65°	392	400	384	370	365	390
75°	212	220	245	261	265	226
85°	65	102	172	207	216	68
90°	13	72	147	186	197	12
95°	65	83	152	191	199	63
105°	167	169	209	241	248	178
115°	289	297	320	339	344	287
125°	425	438	457	472	476	381
135°	570	583	594	609	616	440
145°	711	720	724	729	737	444
155°	830	835	831	832	837	381
165°	906	910	903	900	906	255
175°	944	948	936	932	932	90
180°	942	942	942	942	942	



TEST NUMBER: P644239

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1388.0	1388.0	1388.0	1388.0	1388.0
2.5°	1375.5	1395.4	1384.1	1386.5	1388.0
5°	1366.5	1391.4	1378.2	1380.4	1390.0
7.5°	1353.9	1377.7	1366.3	1367.9	1379.0
10°	1342.9	1365.9	1353.7	1356.9	1366.5
12.5°	1328.8	1351.8	1340.4	1344.3	1353.9
15°	1307.6	1328.8	1316.5	1321.6	1331.2
17.5°	1276.3	1298.0	1285.9	1288.3	1297.8
20°	1252.7	1272.9	1265.5	1264.7	1274.3
22.5°	1224.5	1246.2	1240.4	1235.0	1246.1
25°	1180.2	1201.3	1195.9	1190.2	1197.9
27.5°	1136.3	1154.0	1144.9	1138.0	1143.7
30°	1101.8	1121.0	1109.7	1101.9	1107.7
32.5°	1064.1	1084.1	1072.0	1062.6	1065.3
35°	1005.7	1024.0	1014.6	1001.8	1001.8
37.5°	950.4	964.3	955.0	937.4	933.2
40°	909.7	925.1	912.6	891.9	886.1
42.5°	867.3	882.7	869.5	846.3	837.5
45°	805.8	816.4	800.9	776.1	764.6
47.5°	742.2	754.0	733.0	705.5	691.7
50°	699.9	712.4	689.2	658.4	643.0
52.5°	659.1	669.3	646.0	612.2	599.2
55°	594.0	605.6	582.3	547.7	534.4
57.5°	533.2	544.4	518.4	490.2	479.0
60°	494.0	503.7	478.4	451.9	441.4
62.5°	450.1	460.6	437.7	418.3	409.4
65°	392.1	399.9	384.5	369.9	365.2
67.5°	337.6	343.5	334.9	330.9	329.3
70°	300.0	305.8	305.2	307.5	306.7
72.5°	265.4	270.6	279.4	287.3	288.0
75°	211.7	219.6	244.7	260.9	264.8
77.5°	164.7	172.2	216.2	239.6	245.7
80°	133.3	147.0	199.9	228.0	234.8
82.5°	105.1	125.0	187.5	219.5	226.4
85°	64.7	101.6	171.8	206.9	215.7
87.5°	30.8	82.9	157.5	194.9	205.1
90°	12.9	71.9	146.6	185.6	197.3
92.5°	32.8	73.3	146.8	185.0	195.1
95°	64.6	83.2	152.2	191.1	198.9
97.5°	94.5	101.6	164.0	199.5	207.3
100°	114.5	117.7	174.5	208.5	216.2
102.5°	135.4	136.2	187.5	219.8	227.6
105°	166.6	168.8	208.8	240.8	247.6
107.5°	201.5	204.4	237.3	266.5	272.5
110°	224.7	230.7	258.9	285.0	291.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	251.1	257.1	282.1	305.1	311.9
115°	288.7	296.7	319.9	339.0	343.9
117.5°	328.0	337.9	358.7	375.7	380.4
120°	356.8	366.7	386.0	402.1	406.0
122.5°	383.2	393.9	414.0	430.1	434.0
125°	424.8	437.6	457.0	472.1	476.0
127.5°	467.5	481.0	498.8	514.1	519.2
130°	497.9	510.6	526.0	542.1	548.0
132.5°	525.2	537.9	552.4	569.4	576.0
135°	570.0	582.7	594.0	609.2	616.0
137.5°	613.4	625.7	634.4	646.4	655.0
140°	643.0	653.8	660.0	671.2	679.0
142.5°	670.2	681.0	685.6	695.2	703.0
145°	711.0	719.8	724.0	729.2	737.0
147.5°	749.2	757.8	759.6	764.1	769.0
150°	774.0	781.8	782.0	784.1	789.0
152.5°	797.2	804.2	802.0	803.3	809.0
155°	830.0	834.9	831.0	832.1	837.0
157.5°	856.0	860.9	854.8	856.7	860.6
160°	872.0	876.9	870.0	871.1	875.0
162.5°	887.2	890.5	884.4	883.1	888.6
165°	906.0	909.9	903.0	900.1	906.0
167.5°	922.0	925.9	916.8	913.7	919.6
170°	930.0	933.9	924.0	920.1	926.0
172.5°	937.2	941.1	930.4	925.7	930.0
175°	944.0	947.9	936.0	932.0	932.0
177.5°	946.0	948.3	939.6	935.7	940.4
180°	942.0	942.0	942.0	942.0	942.0

(END OF REPORT)