

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: P644234

Luminaire Tested: CRQ4DIP-SR4F0-100D75U835-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644234  
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-SR4F0-100D75U835-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

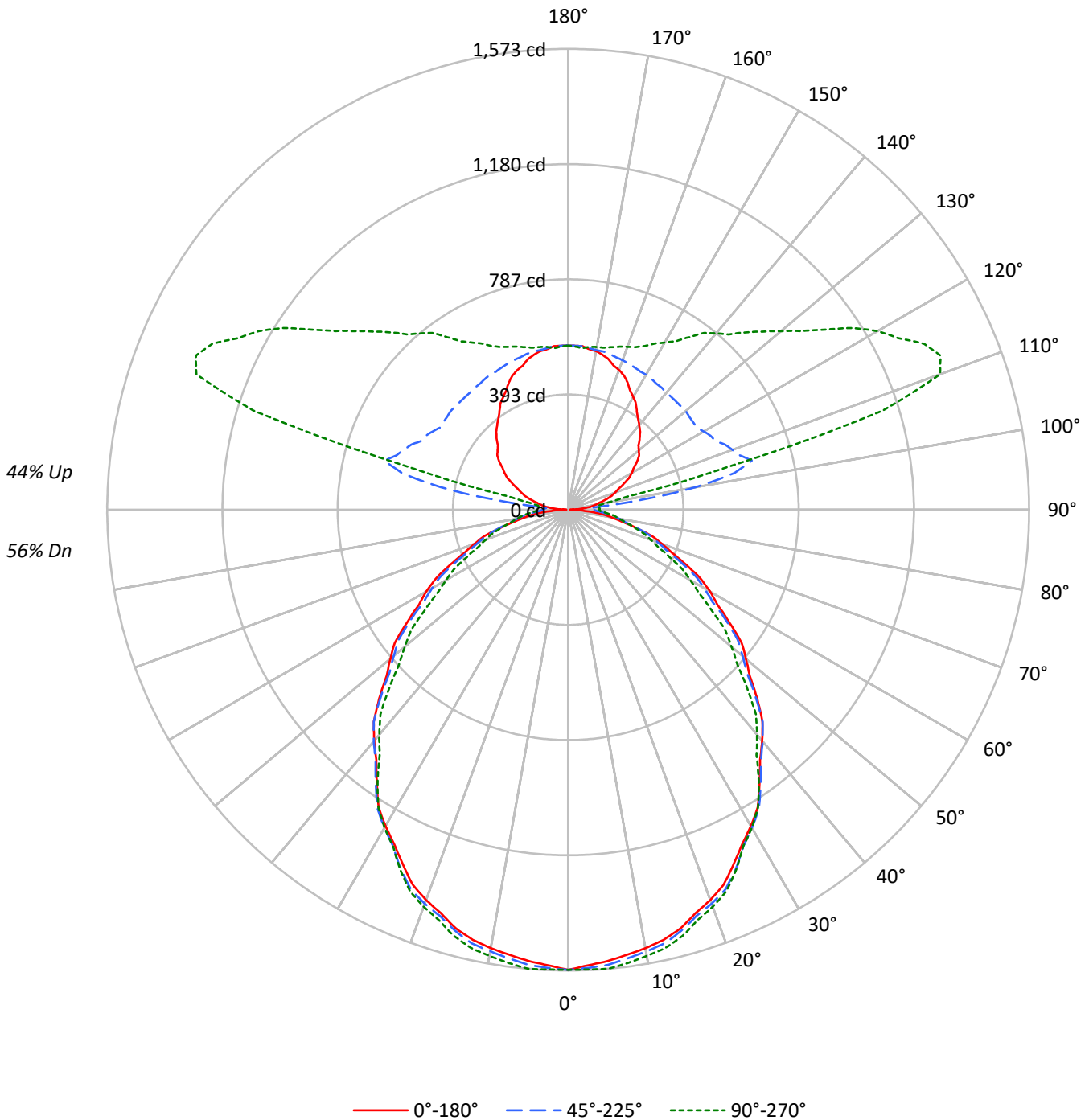
Lumens per Lamp: N/A  
Luminaire Lumens: 7060.5 lumens  
Efficiency: N/A  
Efficacy: 139.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

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				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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	99	95	90	87	92	88	85	81	76	73	71	65	63	61	54	53	52	47
2	90	83	76	71	84	77	72	67	67	62	59	57	54	51	48	46	44	39
3	82	73	65	59	76	68	61	56	59	54	50	50	47	43	43	40	37	34
4	75	64	56	50	70	60	53	48	52	47	42	45	41	37	38	35	32	29
5	69	58	49	43	64	54	47	41	47	41	37	40	36	32	34	31	28	25
6	64	52	44	38	59	48	41	36	42	36	32	37	32	28	31	28	25	22
7	59	47	39	33	55	44	37	32	38	33	28	33	29	25	29	25	22	20
8	55	43	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16
10	48	36	28	24	45	34	27	23	30	24	20	26	22	18	23	19	16	15

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

	0°	45°	90°
0°	25362	25362	25362
5°	24882	22393	21698
10°	24555	19922	18743
15°	24195	17842	16394
20°	23642	16006	14340
25°	22904	14292	12496
30°	22180	12629	10846
35°	21196	11107	9309
40°	20279	9724	7892
45°	19218	8357	6586
50°	18097	7078	5402
55°	16910	5956	4356
60°	15777	4882	3482
65°	14381	3893	2756
70°	13037	3050	2177
75°	11401	2343	1717
80°	9528	1742	1337
85°	6945	1267	1016

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 19218 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.3	2.1
10°-20°	420.7	6.0
20°-30°	621.1	8.8
30°-40°	714.0	10.1
40°-50°	692.7	9.8
50°-60°	579.8	8.2
60°-70°	417.7	5.9
70°-80°	255.3	3.6
80°-90°	125.3	1.8
90°-100°	118.0	1.7
100°-110°	508.7	7.2
110°-120°	672.6	9.5
120°-130°	545.0	7.7
130°-140°	436.6	6.2
140°-150°	343.9	4.9
150°-160°	251.5	3.6
160°-170°	156.2	2.2
170°-180°	53.3	0.8
0°-30°	1190.0	16.9
0°-40°	1904.1	27.0
0°-60°	3176.6	45.0
0°-90°	3974.8	56.3
90°-120°	1299.2	18.4
90°-150°	2624.7	37.2
90°-180°	3086.0	43.7
0°-180°	7060.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1571	1571	1571	1571	1571	
5°	1546	1575	1560	1562	1573	147
15°	1480	1502	1489	1496	1506	416
25°	1336	1357	1353	1347	1356	615
35°	1138	1156	1145	1134	1134	713
45°	912	920	905	878	865	703
55°	672	681	657	616	597	603
65°	444	446	424	392	382	441
75°	240	240	244	237	233	256
85°	73	88	122	131	131	77
90°	7	47	87	104	106	9
95°	50	72	75	94	103	50
105°	131	177	649	835	564	139
115°	209	242	554	1147	1340	207
125°	287	321	520	906	1071	255
135°	345	383	522	746	856	266
145°	409	443	525	650	719	257
155°	479	496	536	589	617	220
165°	532	539	550	564	574	149
175°	560	564	560	557	553	53
180°	560	560	560	560	560	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1570.8	1570.8	1570.8	1570.8	1570.8
2.5°	1556.6	1579.1	1565.4	1569.0	1570.8
5°	1546.4	1574.6	1559.7	1562.1	1573.0
7.5°	1532.2	1558.2	1545.0	1548.0	1560.6
10°	1519.7	1545.8	1530.8	1535.5	1546.4
12.5°	1503.8	1528.1	1516.6	1521.3	1532.2
15°	1479.8	1501.5	1488.7	1495.6	1506.4
17.5°	1444.3	1467.7	1454.1	1457.9	1468.7
20°	1417.7	1439.4	1431.0	1431.2	1442.1
22.5°	1385.7	1409.2	1402.6	1397.6	1410.1
25°	1335.6	1357.3	1353.3	1346.9	1355.6
27.5°	1285.9	1302.0	1294.3	1287.8	1294.3
30°	1246.9	1266.4	1253.5	1247.0	1253.5
32.5°	1204.3	1223.8	1210.9	1202.5	1205.6
35°	1138.1	1155.5	1144.8	1133.7	1133.7
37.5°	1075.6	1086.9	1079.6	1060.8	1056.1
40°	1029.4	1042.4	1031.6	1009.3	1002.8
42.5°	981.5	994.5	982.0	957.8	947.8
45°	911.8	920.5	905.2	878.3	865.3
47.5°	840.0	849.1	828.0	798.3	782.7
50°	792.0	802.9	776.5	745.1	727.7
52.5°	745.9	753.3	728.6	691.8	676.2
55°	672.2	680.9	656.7	616.3	596.8
57.5°	603.5	611.7	583.0	544.5	529.4
60°	559.1	565.6	536.9	496.6	481.4
62.5°	509.4	515.9	489.0	454.0	438.8
65°	443.7	445.9	423.8	392.4	381.6
67.5°	382.0	382.0	363.4	340.1	331.5
70°	339.4	339.4	326.1	308.2	299.5
72.5°	300.4	298.7	290.6	278.1	271.1
75°	239.6	239.6	244.0	237.3	233.0
77.5°	186.4	182.9	201.9	201.0	198.8
80°	150.9	150.9	175.3	179.7	177.5
82.5°	118.9	122.4	154.0	160.1	158.0
85°	73.2	88.4	122.0	130.9	130.9
87.5°	33.3	60.4	97.3	109.5	109.9
90°	6.7	47.0	86.9	103.8	106.0
92.5°	22.2	45.2	81.2	101.0	107.6
95°	50.4	72.3	74.8	94.0	103.1
97.5°	76.7	113.5	240.9	107.8	102.1
100°	93.6	137.0	442.4	160.2	123.2
102.5°	108.7	154.9	581.9	353.7	210.2
105°	131.4	177.0	648.9	834.8	563.5
107.5°	154.1	185.7	615.1	1198.3	1125.3
110°	169.3	199.8	596.4	1254.9	1350.1

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	186.2	216.7	579.5	1216.2	1374.8
115°	209.3	242.0	554.1	1147.0	1339.9
117.5°	232.8	267.3	547.4	1070.5	1268.9
120°	250.7	284.3	534.3	1012.5	1219.2
122.5°	264.8	299.4	520.2	964.2	1154.4
125°	287.3	320.8	520.2	905.8	1071.2
127.5°	305.0	341.9	520.9	838.1	1001.5
130°	314.5	355.9	523.7	792.8	947.9
132.5°	325.1	366.4	522.0	772.5	900.0
135°	345.3	383.2	521.5	746.0	856.3
137.5°	362.9	403.6	521.5	716.8	811.2
140°	377.0	414.9	521.5	699.7	785.8
142.5°	391.1	426.3	524.3	679.8	760.4
145°	408.8	443.2	525.0	649.9	718.8
147.5°	429.9	460.2	529.3	628.4	681.5
150°	444.0	471.6	532.1	614.2	658.9
152.5°	458.1	482.9	532.1	602.7	639.2
155°	479.2	496.5	535.6	589.1	616.7
157.5°	496.1	512.7	539.8	580.5	600.4
160°	507.4	521.2	542.7	574.8	592.0
162.5°	515.9	529.7	545.5	571.8	583.5
165°	532.1	539.0	549.7	564.0	574.4
167.5°	541.2	547.5	553.2	560.4	566.6
170°	549.7	553.2	553.2	560.4	563.8
172.5°	552.5	558.7	556.0	557.5	561.0
175°	560.3	563.7	560.3	556.7	553.2
177.5°	560.3	563.0	560.3	560.2	557.5
180°	560.3	560.3	560.3	560.3	560.3

(END OF REPORT)