

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: P644211

Luminaire Tested: CRQ4DIP-SR4F0-100D25U840-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644211  
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-SR4F0-100D25U840-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 250 LUMENS PER FOOT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

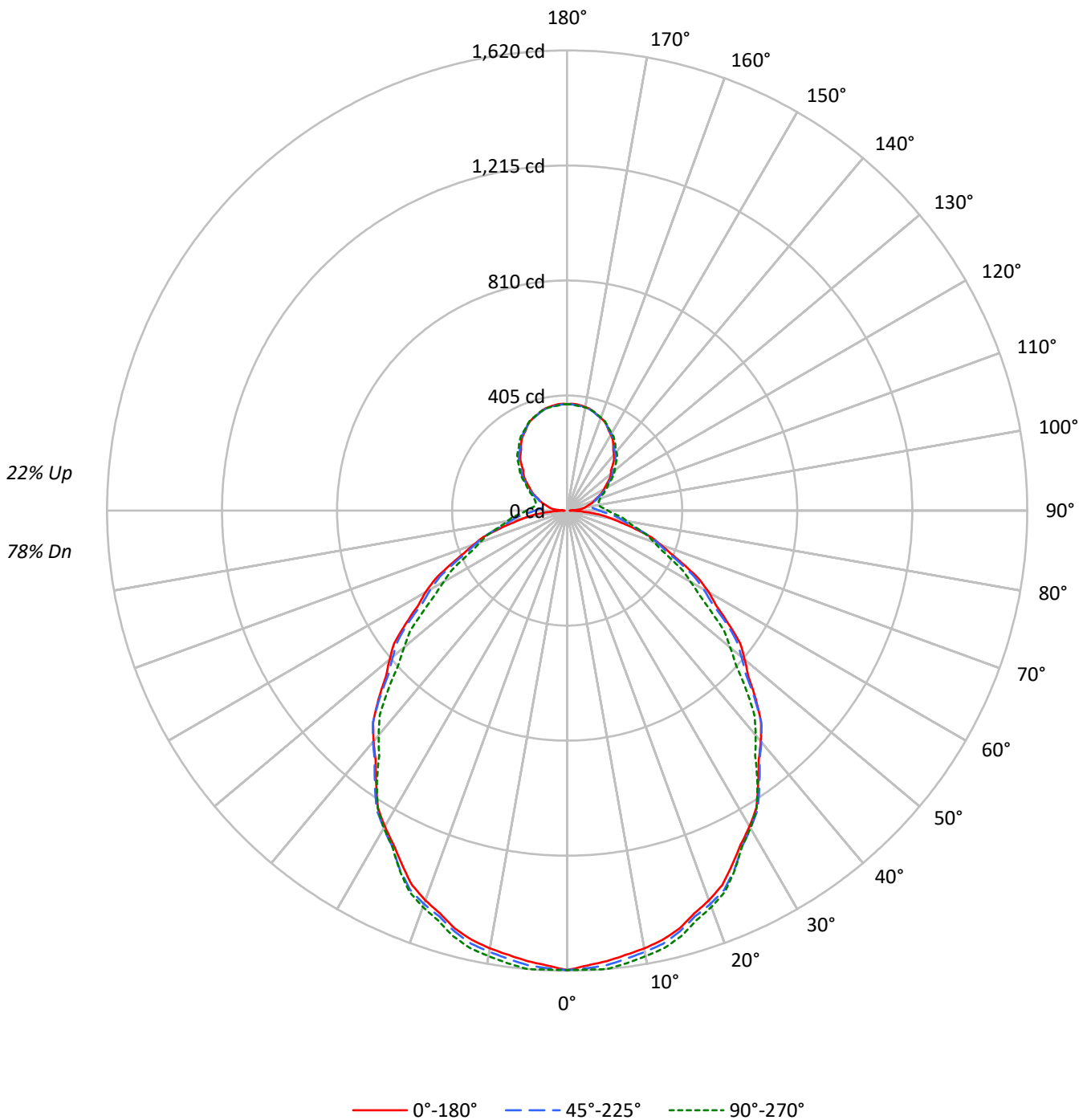
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5277.3 lumens  
Efficiency: N/A  
Efficacy: 138.1 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): 38.2  
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	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	78																				
1	104	99	95	91	99	95	91	87	86	83	81	79	77	74	72	70	69	65																				
2	94	86	80	74	90	83	77	72	76	71	67	69	66	62	63	60	58	54																				
3	86	76	68	62	82	73	66	60	67	61	56	61	57	53	56	53	49	46																				
4	79	68	59	53	75	65	57	51	60	53	48	55	50	45	50	46	43	40																				
5	73	61	52	46	69	58	50	44	54	47	42	49	44	40	46	41	37	35																				
6	67	55	46	40	64	53	45	39	49	42	37	45	39	35	41	37	33	31																				
7	62	50	41	35	59	48	40	34	44	38	33	41	35	31	38	33	29	27																				
8	58	45	37	31	55	44	36	31	41	34	29	38	32	28	35	30	26	24																				
9	54	41	34	28	52	40	33	28	37	31	26	35	29	25	32	28	24	22																				
10	51	38	31	26	49	37	30	25	34	28	24	32	27	23	30	25	22	20																				

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

	0°	45°	90°
0°	26118	26118	26118
5°	25624	23060	22345
10°	25286	20522	19302
15°	24916	18379	16883
20°	24346	16488	14767
25°	23586	14718	12868
30°	22840	13014	11170
35°	21829	11450	9587
40°	20883	10018	8127
45°	19792	8610	6782
50°	18638	7301	5563
55°	17415	6141	4507
60°	16248	5042	3633
65°	14809	4045	2919
70°	13429	3204	2364
75°	11744	2524	1941
80°	9812	1972	1611
85°	7154	1569	1356

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 19792 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.7	2.9
10°-20°	433.3	8.2
20°-30°	639.7	12.1
30°-40°	735.6	13.9
40°-50°	713.7	13.5
50°-60°	598.5	11.3
60°-70°	435.5	8.3
70°-80°	275.6	5.2
80°-90°	152.0	2.9
90°-100°	95.1	1.8
100°-110°	99.9	1.9
110°-120°	130.0	2.5
120°-130°	163.4	3.1
130°-140°	182.6	3.5
140°-150°	180.2	3.4
150°-160°	152.4	2.9
160°-170°	101.5	1.9
170°-180°	35.5	0.7
0°-30°	1225.7	23.2
0°-40°	1961.4	37.2
0°-60°	3273.5	62.0
0°-90°	4136.6	78.4
90°-120°	325.0	6.2
90°-150°	851.3	16.1
90°-180°	1141.0	21.6
0°-180°	5277.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1618	1618	1618	1618	1618	
5°	1592	1622	1606	1609	1620	151
15°	1524	1547	1534	1540	1551	429
25°	1375	1398	1394	1387	1396	634
35°	1172	1191	1180	1168	1168	734
45°	939	949	933	904	891	724
55°	692	703	677	636	617	621
65°	457	462	440	413	404	454
75°	247	250	263	265	263	264
85°	75	100	151	171	175	80
90°	10	58	112	137	143	10
95°	41	47	92	118	123	38
105°	81	73	91	109	115	87
115°	125	123	130	138	140	124
125°	175	177	183	188	189	157
135°	227	232	236	242	245	175
145°	283	286	288	290	293	177
155°	330	332	331	331	333	152
165°	360	362	359	358	360	102
175°	376	377	372	371	371	36
180°	375	375	375	375	375	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1617.6	1617.6	1617.6	1617.6	1617.6
2.5°	1603.0	1626.2	1612.4	1615.8	1617.6
5°	1592.5	1621.5	1606.2	1608.7	1619.9
7.5°	1577.8	1605.0	1591.5	1594.1	1607.1
10°	1565.0	1591.9	1576.9	1581.3	1592.5
12.5°	1548.6	1574.2	1561.9	1566.7	1577.8
15°	1523.9	1547.0	1533.5	1540.2	1551.3
17.5°	1487.4	1511.9	1497.8	1501.3	1512.5
20°	1459.9	1482.7	1474.1	1473.9	1485.1
22.5°	1427.0	1451.6	1444.8	1439.2	1452.2
25°	1375.4	1398.5	1393.7	1387.0	1396.0
27.5°	1324.2	1342.2	1333.4	1326.2	1332.9
30°	1284.0	1304.9	1291.7	1284.2	1290.9
32.5°	1240.2	1261.4	1247.8	1238.4	1241.5
35°	1172.1	1191.1	1180.1	1167.5	1167.5
37.5°	1107.6	1120.8	1112.2	1092.5	1087.5
40°	1060.1	1075.1	1062.8	1039.4	1032.7
42.5°	1010.8	1025.7	1011.9	986.3	976.0
45°	939.0	949.1	932.6	904.5	891.0
47.5°	865.0	875.9	853.2	822.1	806.1
50°	815.7	828.0	800.9	767.3	749.4
52.5°	768.1	777.2	751.2	712.8	697.0
55°	692.3	702.8	677.1	635.9	617.4
57.5°	621.4	631.5	601.7	564.4	549.6
60°	575.8	584.0	554.5	516.6	502.2
62.5°	524.6	533.1	505.8	474.4	460.5
65°	456.9	461.5	440.4	413.3	404.1
67.5°	393.4	395.8	379.7	362.3	355.8
70°	349.6	351.9	342.6	331.4	325.2
72.5°	309.4	310.2	308.3	302.9	298.5
75°	246.8	249.9	262.9	264.7	263.4
77.5°	191.9	192.5	223.0	231.6	232.6
80°	155.4	160.8	198.4	212.5	213.8
82.5°	122.5	132.7	179.0	195.9	197.2
85°	75.4	100.4	151.1	171.1	174.6
87.5°	34.8	73.5	127.7	150.4	154.7
90°	9.6	58.1	112.5	137.1	143.2
92.5°	22.4	51.7	103.0	127.2	133.9
95°	40.8	46.7	92.1	118.2	122.8
97.5°	55.7	49.4	88.1	111.0	115.9
100°	63.6	54.6	87.5	108.6	114.6
102.5°	70.7	60.8	87.8	108.3	113.1
105°	81.3	73.4	90.6	109.4	115.1
107.5°	93.4	86.0	98.6	114.5	118.4
110°	101.4	96.5	106.0	119.5	123.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	111.9	107.0	115.3	125.0	129.2
115°	125.4	122.7	130.3	137.9	139.9
117.5°	139.2	139.0	145.5	150.7	152.6
120°	149.5	150.5	155.1	160.0	161.6
122.5°	160.0	160.1	166.2	171.1	172.7
125°	175.1	177.2	183.3	187.9	189.4
127.5°	190.2	194.4	200.0	204.6	206.6
130°	201.1	206.2	210.8	215.7	218.1
132.5°	209.6	214.6	220.1	226.6	229.2
135°	226.8	231.9	236.4	242.4	245.1
137.5°	244.1	249.0	252.4	257.2	260.6
140°	255.9	260.1	262.6	267.1	270.2
142.5°	266.7	271.0	272.8	276.6	279.7
145°	282.9	286.4	288.1	290.2	293.3
147.5°	298.1	301.5	302.3	304.1	306.0
150°	308.0	311.1	311.2	312.0	314.0
152.5°	317.2	320.0	319.1	319.7	321.9
155°	330.3	332.2	330.7	331.1	333.1
157.5°	340.6	342.6	340.1	340.9	342.4
160°	347.0	348.9	346.2	346.6	348.2
162.5°	353.0	354.4	351.9	351.4	353.6
165°	360.5	362.1	359.3	358.2	360.5
167.5°	366.9	368.4	364.8	363.6	365.9
170°	370.1	371.6	367.7	366.1	368.5
172.5°	372.9	374.5	370.2	368.4	370.1
175°	375.6	377.2	372.5	370.9	370.9
177.5°	376.4	377.4	373.9	372.3	374.2
180°	374.8	374.8	374.8	374.8	374.8

(END OF REPORT)