

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: P644461

Luminaire Tested: CRQ4DP-SR4F0-100D840-FLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644461  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DP-SR4F0-100D840-FLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
DIRECT ONLY  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

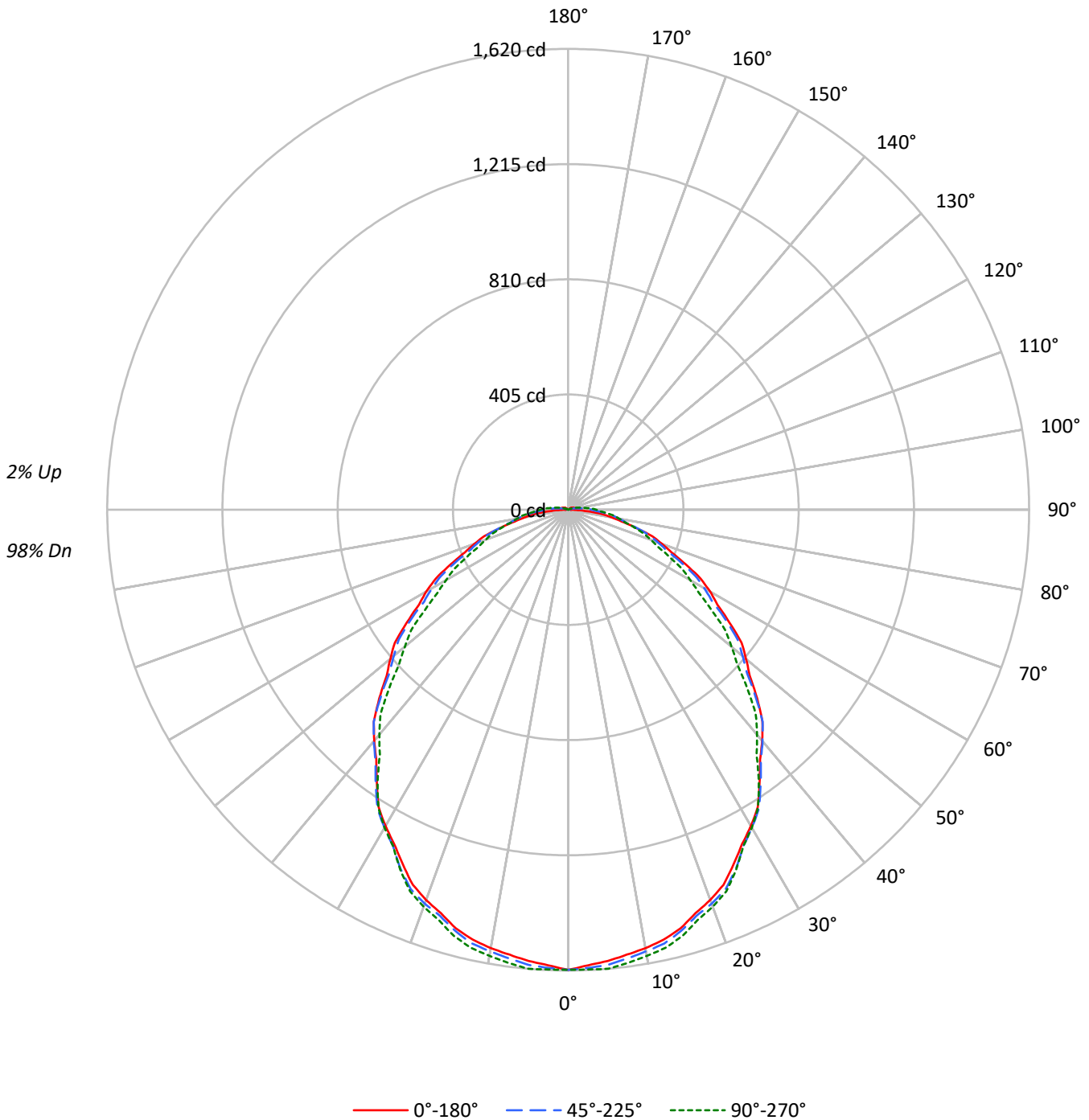
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4170.3 lumens  
Efficiency: N/A  
Efficacy: 139.5 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: 0.02')  
CIE Type: Direct

Input Watts (W): 29.9  
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	119	119	119	119	116	116	116	116	110	110	110		105	105	105		100	100	100	98
1	108	103	99	95	105	101	97	93	96	93	90		92	89	87		88	86	84	82
2	99	91	84	78	96	88	82	77	85	79	75		81	77	73		78	74	71	69
3	90	80	72	65	88	78	71	65	75	69	63		72	67	62		69	65	61	58
4	83	71	62	56	80	70	62	55	67	60	54		64	58	53		62	57	53	50
5	76	64	55	48	74	63	54	48	60	53	47		58	52	47		56	50	46	44
6	71	58	49	43	69	57	48	42	55	47	42		53	46	41		51	45	41	39
7	66	52	44	38	64	51	43	38	50	42	37		48	42	37		47	41	36	34
8	61	48	40	34	60	47	39	34	46	38	33		44	38	33		43	37	33	31
9	57	44	36	31	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27		38	32	27		37	31	27	25

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

	0°	45°	90°
0°	26118	26118	26118
5°	25796	25783	25914
10°	25630	25353	25436
15°	25430	24890	24929
20°	25027	24342	24196
25°	24431	23612	23244
30°	23852	22624	22149
35°	23002	21568	20825
40°	22227	20492	19333
45°	21308	19168	17691
50°	20338	17750	15969
55°	19315	16443	14248
60°	18394	14986	12708
65°	17225	13479	11360
70°	16225	12164	10310
75°	15045	11100	9595
80°	13954	10318	9184
85°	13037	10291	9199

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 21308 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.7	3.7
10°-20°	433.3	10.4
20°-30°	639.6	15.3
30°-40°	735.3	17.6
40°-50°	713.3	17.1
50°-60°	597.1	14.3
60°-70°	430.2	10.3
70°-80°	262.9	6.3
80°-90°	127.7	3.1
90°-100°	50.5	1.2
100°-110°	18.3	0.4
110°-120°	6.4	0.2
120°-130°	2.6	0.1
130°-140°	0.3	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1225.5	29.4
0°-40°	1960.8	47.0
0°-60°	3271.3	78.4
0°-90°	4092.1	98.1
90°-120°	75.2	1.8
90°-150°	78.2	1.9
90°-180°	78.0	1.9
0°-180°	4170.3	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	1546	1533	1540	1551	429
25°	1375	1398	1394	1387	1396	634
35°	1172	1190	1179	1168	1168	734
45°	939	948	932	904	891	724
55°	692	701	676	635	615	621
65°	457	459	436	404	393	454
75°	247	247	251	244	240	264
85°	75	91	126	135	135	80
90°	7	45	82	96	98	9
95°	23	21	48	64	66	19
105°	23	9	11	21	25	24
115°	16	7	5	5	5	16
125°	9	5	2	0	0	8
135°	0	0	0	0	0	1
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

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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	1612.1	1615.8	1617.6
5°	1592.5	1621.5	1606.2	1608.7	1619.9
7.5°	1577.8	1604.6	1591.1	1594.1	1607.1
10°	1565.0	1591.9	1576.5	1581.3	1592.5
12.5°	1548.6	1573.6	1561.8	1566.7	1577.8
15°	1523.9	1546.3	1533.1	1540.2	1551.3
17.5°	1487.4	1511.5	1497.4	1501.3	1512.5
20°	1459.9	1482.3	1473.7	1473.9	1485.1
22.5°	1427.0	1451.2	1444.4	1439.2	1452.2
25°	1375.4	1397.8	1393.7	1387.0	1396.0
27.5°	1324.2	1340.8	1332.9	1326.2	1332.9
30°	1284.0	1304.1	1290.9	1284.2	1290.9
32.5°	1240.2	1260.3	1247.0	1238.4	1241.5
35°	1172.1	1189.9	1178.9	1167.5	1167.5
37.5°	1107.6	1119.3	1111.8	1092.5	1087.5
40°	1060.1	1073.5	1062.4	1039.4	1032.7
42.5°	1010.8	1024.2	1011.2	986.3	976.0
45°	939.0	948.0	932.2	904.5	891.0
47.5°	865.0	874.4	852.7	822.1	806.1
50°	815.7	826.8	799.7	767.3	749.4
52.5°	768.1	775.7	750.3	712.5	696.4
55°	692.3	701.2	676.3	634.7	614.6
57.5°	621.4	629.9	600.4	560.8	545.1
60°	575.8	582.5	552.9	511.4	495.8
62.5°	524.6	531.3	503.6	467.6	451.9
65°	456.9	459.2	436.4	404.1	393.0
67.5°	393.4	393.4	374.2	350.3	341.3
70°	349.6	349.6	335.9	317.4	308.4
72.5°	309.4	307.6	299.3	286.3	279.2
75°	246.8	246.8	251.3	244.4	239.9
77.5°	191.9	188.3	207.9	206.9	204.7
80°	155.4	155.4	180.5	185.0	182.8
82.5°	122.5	126.0	158.6	164.9	162.7
85°	75.4	91.0	125.7	134.8	134.8
87.5°	34.3	61.5	98.7	110.6	111.0
90°	6.9	44.8	82.3	96.0	98.2
92.5°	14.2	34.3	67.6	81.4	85.4
95°	22.8	20.6	48.0	64.0	66.3
97.5°	27.4	13.6	34.7	48.0	50.7
100°	27.4	11.8	27.4	38.9	43.4
102.5°	25.6	10.0	20.1	31.6	34.3
105°	22.8	9.4	11.4	20.7	25.1
107.5°	20.1	7.1	6.4	12.8	15.1
110°	18.3	7.1	4.6	9.2	11.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	18.3	7.1	4.6	5.5	7.8
115°	16.0	7.1	4.6	4.6	4.6
117.5°	13.3	7.0	4.1	1.8	1.8
120°	11.4	7.0	2.3	0.0	0.0
122.5°	11.4	5.2	2.3	0.0	0.0
125°	9.1	4.7	2.3	0.0	0.0
127.5°	6.4	4.6	2.3	0.0	0.0
130°	4.6	4.6	2.3	0.0	0.0
132.5°	0.9	0.9	0.5	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)