

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: P644475

Luminaire Tested: CRQ4DP-SR4F0-50D935-FLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644475  
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-SR4F0-50D935-FLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
DIRECT ONLY  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

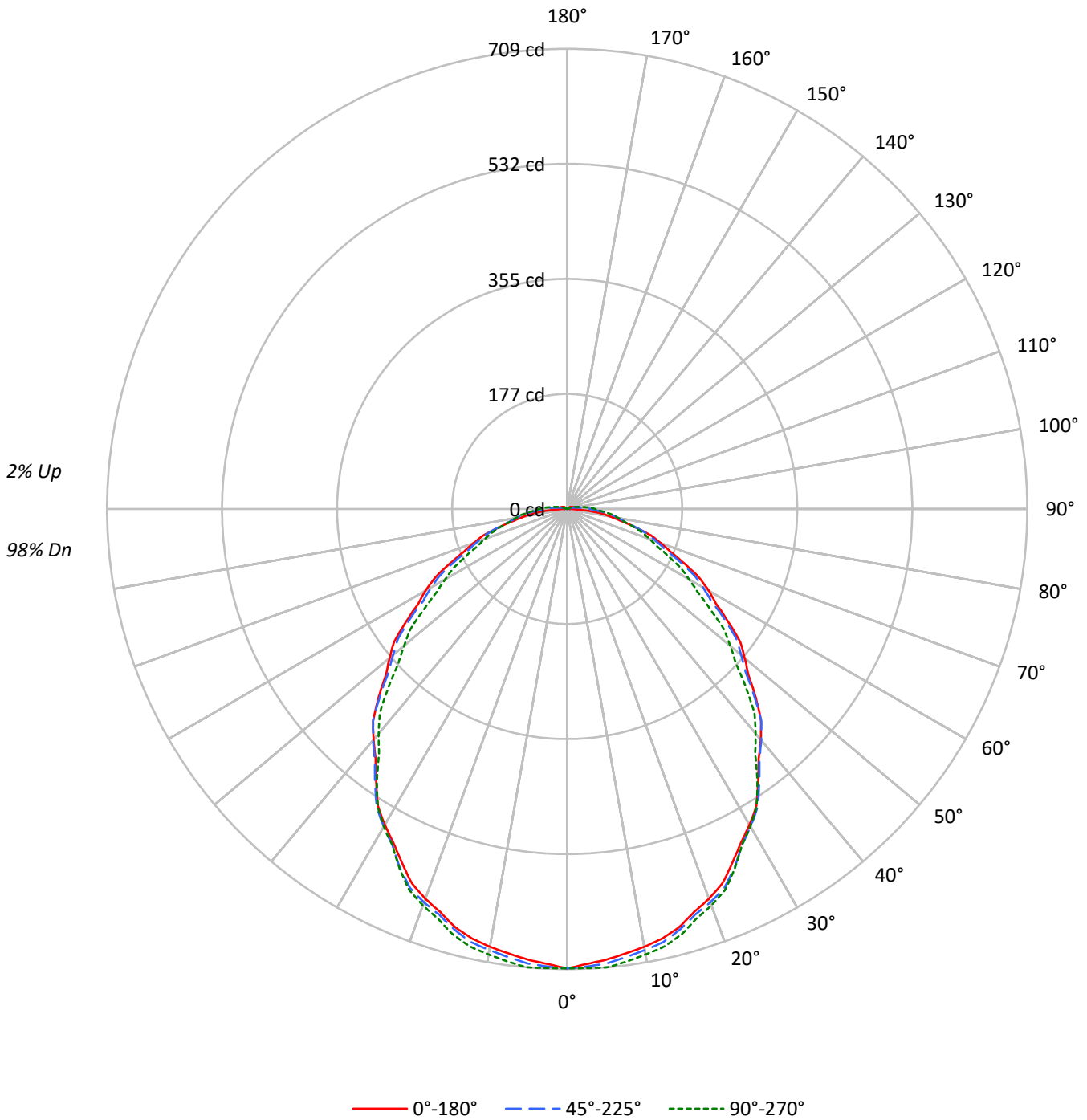
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1825.2 lumens  
Efficiency: N/A  
Efficacy: 127.6 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): 14.3  
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°	11431	11431	11431
5°	11290	11285	11342
10°	11218	11096	11133
15°	11131	10894	10911
20°	10954	10654	10590
25°	10693	10335	10173
30°	10440	9902	9694
35°	10067	9440	9115
40°	9729	8969	8462
45°	9326	8389	7744
50°	8901	7769	6989
55°	8454	7197	6236
60°	8050	6559	5562
65°	7540	5899	4972
70°	7101	5323	4513
75°	6584	4859	4199
80°	6106	4516	4019
85°	5706	4503	4026

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9326 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.8	3.7
10°-20°	189.6	10.4
20°-30°	279.9	15.3
30°-40°	321.8	17.6
40°-50°	312.2	17.1
50°-60°	261.3	14.3
60°-70°	188.3	10.3
70°-80°	115.0	6.3
80°-90°	55.9	3.1
90°-100°	22.1	1.2
100°-110°	8.0	0.4
110°-120°	2.8	0.2
120°-130°	1.2	0.1
130°-140°	0.1	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°	536.4	29.4
0°-40°	858.2	47.0
0°-60°	1431.8	78.4
0°-90°	1791.0	98.1
90°-120°	32.9	1.8
90°-150°	34.2	1.9
90°-180°	34.0	1.9
0°-180°	1825.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	708	708	708	708	708	
5°	697	710	703	704	709	66
15°	667	677	671	674	679	188
25°	602	612	610	607	611	277
35°	513	521	516	511	511	321
45°	411	415	408	396	390	317
55°	303	307	296	278	269	272
65°	200	201	191	177	172	199
75°	108	108	110	107	105	115
85°	33	40	55	59	59	35
90°	3	20	36	42	43	4
95°	10	9	21	28	29	8
105°	10	4	5	9	11	11
115°	7	3	2	2	2	7
125°	4	2	1	0	0	3
135°	0	0	0	0	0	0
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°	708.0	708.0	708.0	708.0	708.0
2.5°	701.6	711.8	705.6	707.2	708.0
5°	697.0	709.7	703.0	704.1	709.0
7.5°	690.6	702.3	696.4	697.7	703.4
10°	685.0	696.7	690.0	692.1	697.0
12.5°	677.8	688.7	683.6	685.7	690.6
15°	667.0	676.8	671.0	674.1	679.0
17.5°	651.0	661.6	655.4	657.1	662.0
20°	639.0	648.8	645.0	645.1	650.0
22.5°	624.6	635.2	632.2	629.9	635.6
25°	602.0	611.8	610.0	607.1	611.0
27.5°	579.6	586.8	583.4	580.5	583.4
30°	562.0	570.8	565.0	562.1	565.0
32.5°	542.8	551.6	545.8	542.0	543.4
35°	513.0	520.8	516.0	511.0	511.0
37.5°	484.8	489.9	486.6	478.2	476.0
40°	464.0	469.9	465.0	454.9	452.0
42.5°	442.4	448.3	442.6	431.7	427.2
45°	411.0	414.9	408.0	395.9	390.0
47.5°	378.6	382.7	373.2	359.8	352.8
50°	357.0	361.9	350.0	335.8	328.0
52.5°	336.2	339.5	328.4	311.8	304.8
55°	303.0	306.9	296.0	277.8	269.0
57.5°	272.0	275.7	262.8	245.4	238.6
60°	252.0	254.9	242.0	223.8	217.0
62.5°	229.6	232.5	220.4	204.6	197.8
65°	200.0	201.0	191.0	176.9	172.0
67.5°	172.2	172.2	163.8	153.3	149.4
70°	153.0	153.0	147.0	138.9	135.0
72.5°	135.4	134.6	131.0	125.3	122.2
75°	108.0	108.0	110.0	107.0	105.0
77.5°	84.0	82.4	91.0	90.6	89.6
80°	68.0	68.0	79.0	81.0	80.0
82.5°	53.6	55.2	69.4	72.2	71.2
85°	33.0	39.8	55.0	59.0	59.0
87.5°	15.0	26.9	43.2	48.4	48.6
90°	3.0	19.6	36.0	42.0	43.0
92.5°	6.2	15.0	29.6	35.6	37.4
95°	10.0	9.0	21.0	28.0	29.0
97.5°	12.0	5.9	15.2	21.0	22.2
100°	12.0	5.2	12.0	17.0	19.0
102.5°	11.2	4.4	8.8	13.8	15.0
105°	10.0	4.1	5.0	9.0	11.0
107.5°	8.8	3.1	2.8	5.6	6.6
110°	8.0	3.1	2.0	4.0	5.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	8.0	3.1	2.0	2.4	3.4
115°	7.0	3.1	2.0	2.0	2.0
117.5°	5.8	3.1	1.8	0.8	0.8
120°	5.0	3.0	1.0	0.0	0.0
122.5°	5.0	2.3	1.0	0.0	0.0
125°	4.0	2.0	1.0	0.0	0.0
127.5°	2.8	2.0	1.0	0.0	0.0
130°	2.0	2.0	1.0	0.0	0.0
132.5°	0.4	0.4	0.2	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)