

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: P644477

Luminaire Tested: CRQ4DP-SR4F0-75D830-FLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644477  
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-SR4F0-75D830-FLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
DIRECT ONLY  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

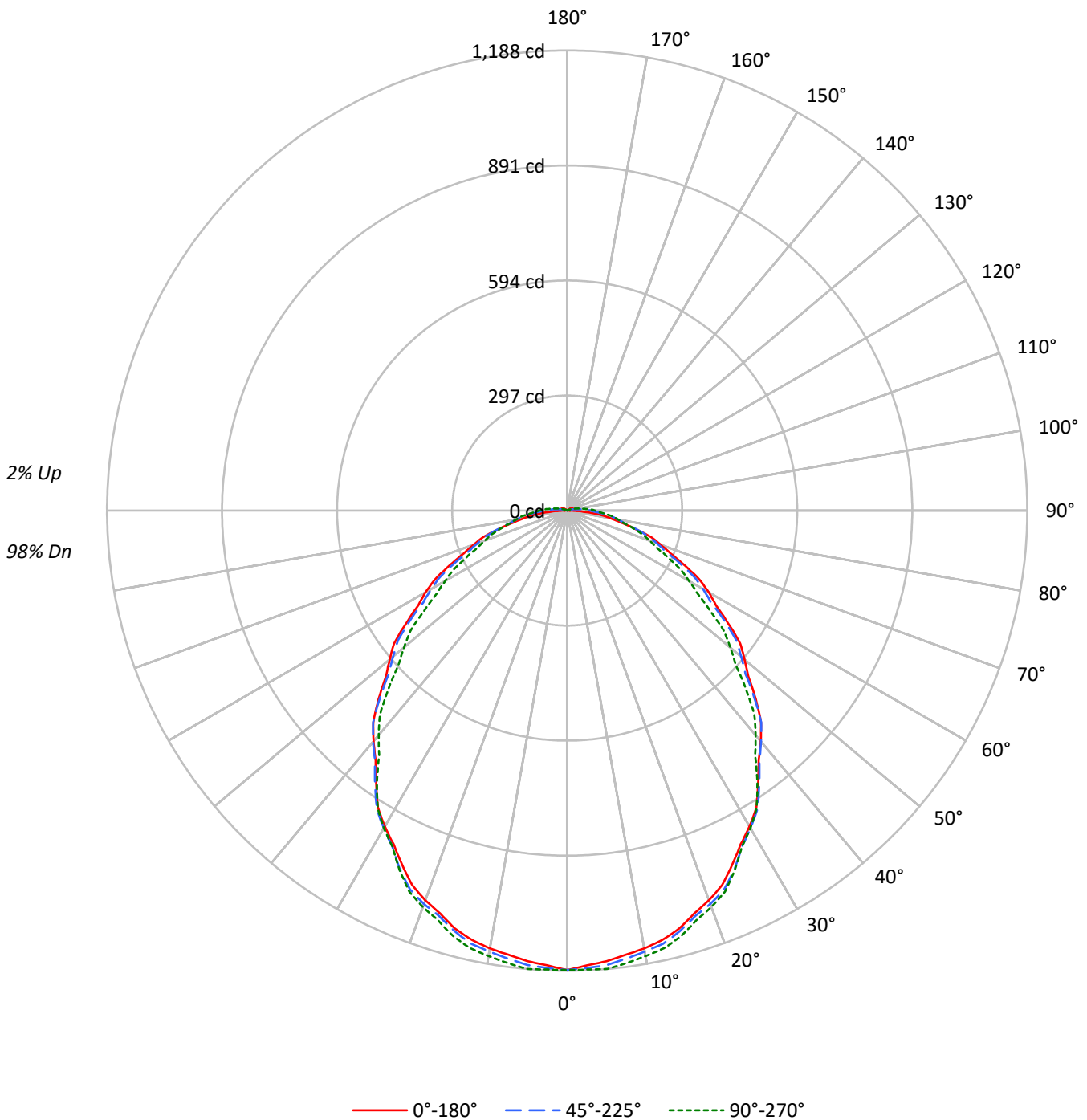
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3057.9 lumens  
Efficiency: N/A  
Efficacy: 140.3 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: 0.02')  
CIE Type: Direct

Input Watts (W): 21.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	19151	19151	19151
5°	18915	18906	19002
10°	18794	18590	18651
15°	18647	18250	18279
20°	18352	17849	17743
25°	17914	17313	17043
30°	17490	16590	16241
35°	16865	15816	15270
40°	16300	15026	14175
45°	15626	14054	12973
50°	14912	13016	11709
55°	14162	12057	10449
60°	13488	10988	9317
65°	12633	9884	8331
70°	11895	8920	7562
75°	11028	8141	7035
80°	10228	7568	6732
85°	9561	7540	6743

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15626 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.0	3.7
10°-20°	317.7	10.4
20°-30°	469.0	15.3
30°-40°	539.2	17.6
40°-50°	523.0	17.1
50°-60°	437.9	14.3
60°-70°	315.5	10.3
70°-80°	192.7	6.3
80°-90°	93.6	3.1
90°-100°	37.1	1.2
100°-110°	13.4	0.4
110°-120°	4.7	0.2
120°-130°	1.9	0.1
130°-140°	0.2	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°	898.6	29.4
0°-40°	1437.8	47.0
0°-60°	2398.7	78.4
0°-90°	3000.5	98.1
90°-120°	55.2	1.8
90°-150°	57.4	1.9
90°-180°	57.0	1.9
0°-180°	3057.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1186	1186	1186	1186	1186	
5°	1168	1189	1178	1180	1188	111
15°	1117	1134	1124	1129	1138	314
25°	1008	1025	1022	1017	1024	465
35°	859	872	864	856	856	538
45°	689	695	684	663	653	531
55°	508	514	496	465	451	455
65°	335	337	320	296	288	333
75°	181	181	184	179	176	193
85°	55	67	92	99	99	58
90°	5	33	60	70	72	6
95°	17	15	35	47	49	14
105°	17	7	8	15	18	18
115°	12	5	3	3	3	11
125°	7	3	2	0	0	6
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°	1186.1	1186.1	1186.1	1186.1	1186.1
2.5°	1175.4	1192.4	1182.1	1184.8	1186.1
5°	1167.7	1189.0	1177.8	1179.6	1187.8
7.5°	1157.0	1176.6	1166.7	1168.9	1178.4
10°	1147.6	1167.3	1156.0	1159.5	1167.7
12.5°	1135.5	1153.9	1145.3	1148.8	1157.0
15°	1117.4	1133.8	1124.1	1129.4	1137.5
17.5°	1090.6	1108.3	1098.0	1100.9	1109.1
20°	1070.5	1086.9	1080.6	1080.8	1089.0
22.5°	1046.4	1064.1	1059.1	1055.3	1064.8
25°	1008.5	1024.9	1021.9	1017.1	1023.6
27.5°	971.0	983.1	977.4	972.5	977.4
30°	941.5	956.3	946.6	941.6	946.6
32.5°	909.4	924.1	914.4	908.1	910.4
35°	859.4	872.5	864.5	856.1	856.1
37.5°	812.2	820.7	815.2	801.1	797.5
40°	777.4	787.2	779.0	762.2	757.2
42.5°	741.2	751.0	741.5	723.2	715.7
45°	688.6	695.1	683.5	663.2	653.4
47.5°	634.3	641.2	625.2	602.8	591.1
50°	598.1	606.3	586.4	562.6	549.5
52.5°	563.2	568.8	550.2	522.4	510.6
55°	507.6	514.2	495.9	465.4	450.7
57.5°	455.7	461.9	440.3	411.2	399.7
60°	422.2	427.1	405.4	375.0	363.5
62.5°	384.7	389.6	369.2	342.8	331.4
65°	335.1	336.7	320.0	296.3	288.2
67.5°	288.5	288.5	274.4	256.8	250.3
70°	256.3	256.3	246.3	232.7	226.2
72.5°	226.8	225.5	219.5	210.0	204.7
75°	180.9	180.9	184.3	179.2	175.9
77.5°	140.7	138.1	152.5	151.7	150.1
80°	113.9	113.9	132.4	135.7	134.0
82.5°	89.8	92.4	116.3	120.9	119.3
85°	55.3	66.8	92.1	98.8	98.8
87.5°	25.1	45.1	72.4	81.1	81.4
90°	5.0	32.9	60.3	70.4	72.0
92.5°	10.4	25.1	49.6	59.7	62.7
95°	16.8	15.1	35.2	46.9	48.6
97.5°	20.1	9.9	25.5	35.2	37.2
100°	20.1	8.6	20.1	28.6	31.8
102.5°	18.8	7.3	14.7	23.2	25.1
105°	16.8	6.9	8.4	15.2	18.4
107.5°	14.7	5.2	4.7	9.4	11.1
110°	13.4	5.2	3.4	6.7	8.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	13.4	5.2	3.4	4.1	5.7
115°	11.7	5.2	3.4	3.4	3.4
117.5°	9.7	5.1	3.0	1.3	1.3
120°	8.4	5.1	1.7	0.0	0.0
122.5°	8.4	3.8	1.7	0.0	0.0
125°	6.7	3.4	1.7	0.0	0.0
127.5°	4.7	3.4	1.7	0.0	0.0
130°	3.4	3.4	1.7	0.0	0.0
132.5°	0.7	0.7	0.3	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)