

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: P644212

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

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644212  
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-SR4F0-100D25U840-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 250 LUMENS PER FOOT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

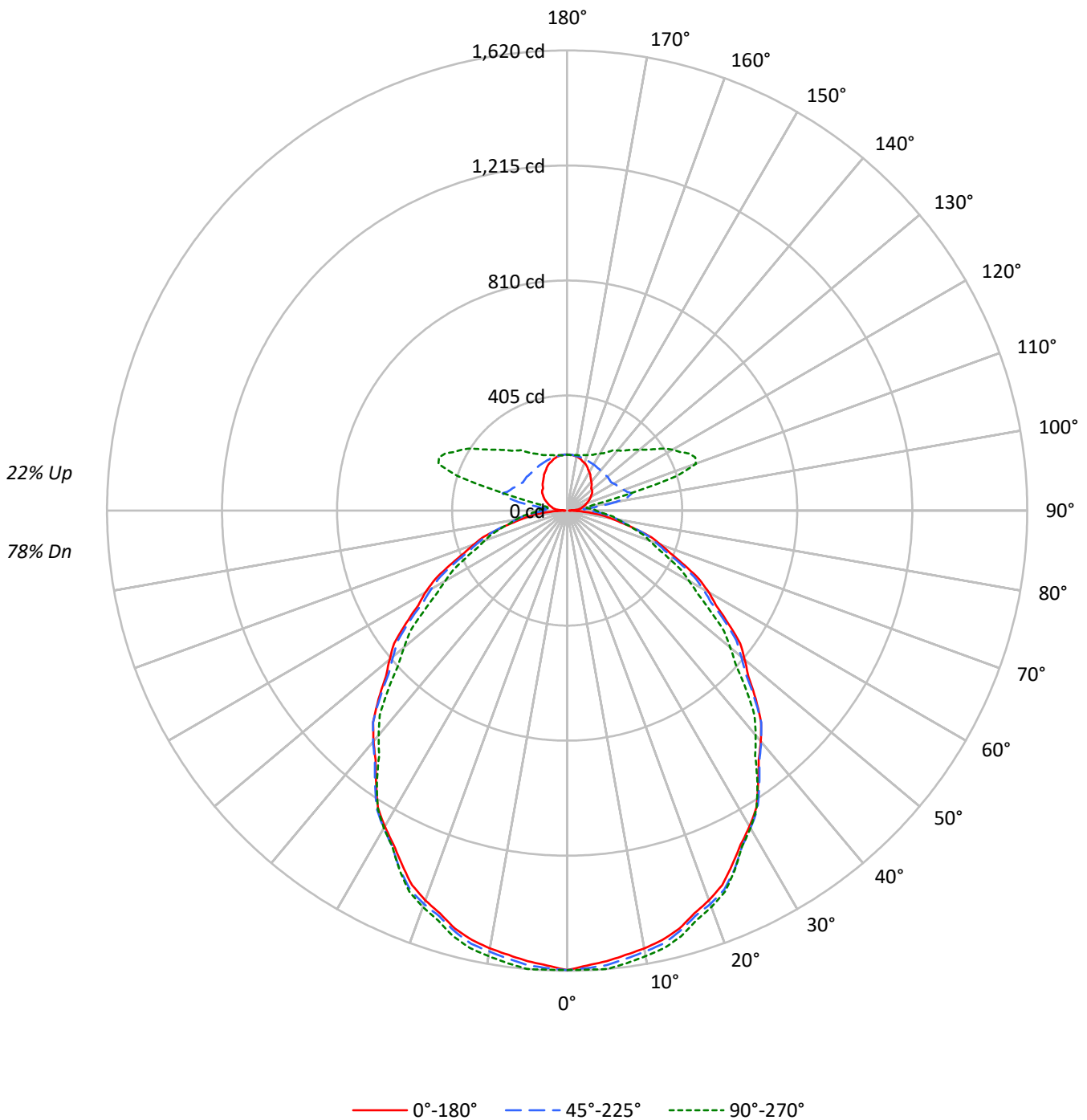
Lumens per Lamp: N/A  
Luminaire Lumens: 5229.0 lumens  
Efficiency: N/A  
Efficacy: 136.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

Input Watts (W): 38.2  
Input Voltage (V): 120  
Input Current (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										
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	88	87	84	81	79	77	75	72	70	69	65																				
2	95	87	80	75	90	83	77	72	76	71	67	70	66	63	64	61	58	55																				
3	86	76	69	63	82	73	66	61	67	62	57	62	57	53	57	53	50	47																				
4	79	68	60	53	75	65	58	52	60	54	49	55	50	46	51	46	43	40																				
5	73	61	52	46	69	58	51	45	54	47	42	50	44	40	46	41	38	35																				
6	67	55	46	40	64	53	45	39	49	42	37	45	39	35	42	37	33	31																				
7	63	50	41	36	60	48	40	35	44	38	33	41	36	31	38	33	30	27																				
8	58	45	37	32	56	44	36	31	41	34	30	38	32	28	35	30	27	25																				
9	54	42	34	28	52	40	33	28	37	31	27	35	29	25	32	28	24	22																				
10	51	38	31	26	49	37	30	25	35	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	20517	19302
15°	24916	18374	16883
20°	24346	16483	14767
25°	23586	14718	12868
30°	22840	13006	11170
35°	21829	11438	9587
40°	20883	10014	8127
45°	19792	8607	6782
50°	18638	7290	5563
55°	17415	6133	4486
60°	16248	5027	3586
65°	14809	4009	2839
70°	13429	3142	2242
75°	11744	2413	1768
80°	9812	1794	1377
85°	7154	1305	1047

**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	8.3
20°-30°	639.6	12.2
30°-40°	735.3	14.1
40°-50°	713.3	13.6
50°-60°	597.1	11.4
60°-70°	430.2	8.2
70°-80°	262.9	5.0
80°-90°	128.2	2.5
90°-100°	74.8	1.4
100°-110°	190.9	3.7
110°-120°	240.7	4.6
120°-130°	193.4	3.7
130°-140°	153.7	2.9
140°-150°	120.9	2.3
150°-160°	88.4	1.7
160°-170°	54.9	1.1
170°-180°	18.7	0.4
0°-30°	1225.5	23.4
0°-40°	1960.8	37.5
0°-60°	3271.3	62.6
0°-90°	4092.5	78.3
90°-120°	506.4	9.7
90°-150°	974.4	18.6
90°-180°	1136.0	21.7
0°-180°	5229.0	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	46	85	100	102	9
95°	33	39	58	75	80	30
105°	61	68	236	307	215	65
115°	84	90	198	406	474	83
125°	107	116	184	318	377	95
135°	121	135	183	262	301	94
145°	144	156	185	228	253	90
155°	168	175	188	207	217	77
165°	187	190	193	198	202	53
175°	197	198	197	196	194	19
180°	197	197	197	197	197	

TEST NUMBER: P644212

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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	61.8	99.2	111.3	111.8
90°	6.9	46.0	84.7	99.7	102.0
92.5°	17.1	38.5	73.1	89.1	94.1
95°	32.8	39.0	57.9	75.2	79.9
97.5°	45.0	48.8	107.6	69.5	69.3
100°	51.0	55.9	173.6	82.0	71.9
102.5°	55.1	61.0	217.9	145.2	96.5
105°	61.3	68.4	235.7	307.2	214.7
107.5°	67.4	70.0	220.5	429.8	405.6
110°	71.6	74.9	212.7	447.3	482.3

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	77.5	80.9	206.8	431.3	488.5
115°	84.1	89.7	197.9	406.3	474.2
117.5°	90.6	98.6	195.2	377.6	447.4
120°	95.7	104.5	189.4	356.0	428.7
122.5°	100.6	108.7	184.4	339.0	405.9
125°	107.0	115.9	184.4	318.5	376.7
127.5°	111.5	123.2	184.7	294.7	352.1
130°	113.6	128.1	185.7	278.8	333.3
132.5°	114.9	129.4	183.8	271.6	316.4
135°	121.4	134.8	183.4	262.3	301.1
137.5°	127.6	141.9	183.4	252.0	285.2
140°	132.6	145.9	183.4	246.0	276.3
142.5°	137.5	149.9	184.4	239.0	267.4
145°	143.7	155.8	184.6	228.5	252.8
147.5°	151.2	161.8	186.1	221.0	239.6
150°	156.1	165.8	187.1	216.0	231.7
152.5°	161.1	169.8	187.1	211.9	224.8
155°	168.5	174.6	188.3	207.1	216.8
157.5°	174.5	180.3	189.8	204.1	211.1
160°	178.4	183.3	190.8	202.1	208.2
162.5°	181.4	186.2	191.8	201.1	205.2
165°	187.1	189.5	193.3	198.3	202.0
167.5°	190.3	192.5	194.5	197.1	199.2
170°	193.3	194.5	194.5	197.0	198.2
172.5°	194.3	196.5	195.5	196.0	197.3
175°	197.0	198.2	197.0	195.7	194.5
177.5°	197.0	198.0	197.0	197.0	196.0
180°	197.0	197.0	197.0	197.0	197.0

(END OF REPORT)