

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: P644288

Luminaire Tested: CRQ4DIP-SR4F0-125D25U935-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644288  
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-SR4F0-125D25U935-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 250 LUMENS PER FOOT  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

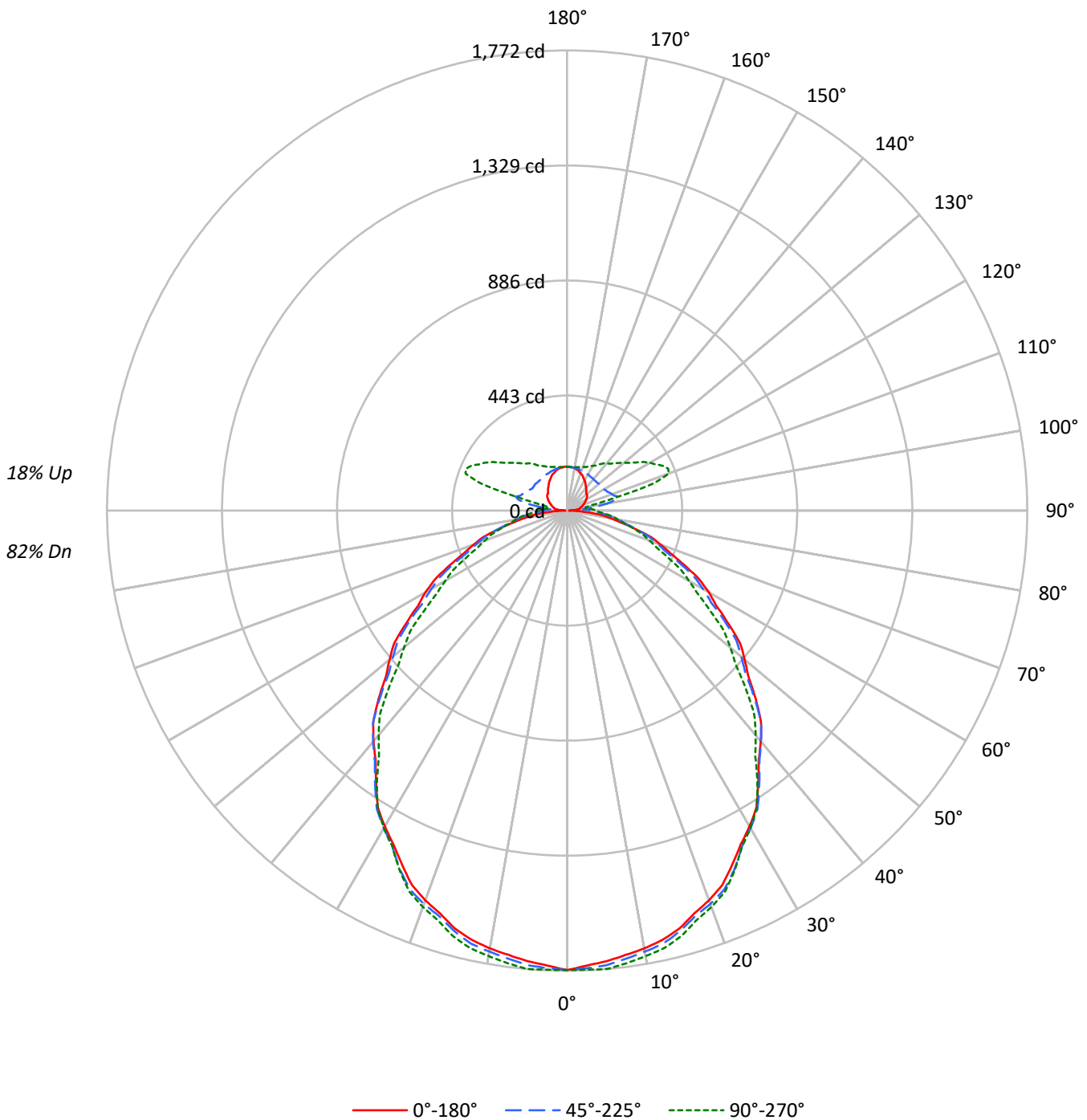
Lumens per Lamp: N/A  
Luminaire Lumens: 5470.0 lumens  
Efficiency: N/A  
Efficacy: 113.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

Input Watts (W): 48.3  
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										
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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	85	85	85	82																				
1	105	100	96	92	100	96	92	89	88	85	83	81	79	77	75	73	72	68																				
2	95	87	81	75	91	84	78	73	78	73	69	72	68	64	66	63	60	57																				
3	87	77	69	63	83	74	67	61	69	63	58	64	59	55	59	55	52	49																				
4	80	69	60	54	76	66	58	52	61	55	50	57	51	47	53	48	45	42																				
5	74	61	53	46	70	59	51	45	55	48	43	51	46	41	48	43	39	37																				
6	68	55	47	41	65	53	45	40	50	43	38	46	41	36	43	38	35	32																				
7	63	50	42	36	60	49	41	35	45	39	34	42	37	32	40	35	31	29																				
8	59	46	38	32	56	44	37	31	42	35	30	39	33	29	37	32	28	26																				
9	55	42	34	29	53	41	33	28	38	32	27	36	30	26	34	29	25	23																				
10	51	39	31	26	49	38	30	26	35	29	25	33	28	24	31	26	23	21																				

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

	0°	45°	90°
0°	28568	28568	28568
5°	28028	25224	24441
10°	27660	22442	21113
15°	27254	20097	18468
20°	26630	18029	16152
25°	25798	16099	14075
30°	24983	14226	12217
35°	23876	12511	10486
40°	22843	10954	8890
45°	21648	9414	7418
50°	20386	7973	6085
55°	19048	6708	4908
60°	17772	5499	3923
65°	16200	4384	3105
70°	14689	3436	2452
75°	12843	2639	1934
80°	10727	1962	1506
85°	7828	1427	1144

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 21648 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.0	3.1
10°-20°	473.9	8.7
20°-30°	699.6	12.8
30°-40°	804.3	14.7
40°-50°	780.2	14.3
50°-60°	653.1	11.9
60°-70°	470.6	8.6
70°-80°	287.5	5.3
80°-90°	140.1	2.6
90°-100°	76.1	1.4
100°-110°	168.1	3.1
110°-120°	208.1	3.8
120°-130°	166.5	3.0
130°-140°	132.0	2.4
140°-150°	103.8	1.9
150°-160°	75.9	1.4
160°-170°	47.1	0.9
170°-180°	16.1	0.3
0°-30°	1340.5	24.5
0°-40°	2144.8	39.2
0°-60°	3578.2	65.4
0°-90°	4476.3	81.8
90°-120°	452.3	8.3
90°-150°	854.6	15.6
90°-180°	994.0	18.2
0°-180°	5470.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1769	1769	1769	1769	1769	
5°	1742	1774	1757	1760	1772	165
15°	1667	1691	1677	1685	1697	469
25°	1504	1529	1524	1517	1527	693
35°	1282	1302	1290	1277	1277	803
45°	1027	1037	1020	989	975	792
55°	757	767	740	694	672	679
65°	500	502	477	442	430	497
75°	270	270	275	267	262	289
85°	82	100	137	147	147	87
90°	8	50	92	108	111	10
95°	34	38	61	80	84	31
105°	58	61	205	268	190	61
115°	76	79	171	350	408	75
125°	94	100	159	273	323	83
135°	104	116	157	225	258	81
145°	123	134	158	196	217	77
155°	145	150	162	178	186	66
165°	160	163	166	170	173	45
175°	169	170	169	168	167	16
180°	169	169	169	169	169	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1769.4	1769.4	1769.4	1769.4	1769.4
2.5°	1753.4	1778.8	1763.4	1767.4	1769.4
5°	1741.9	1773.6	1756.9	1759.6	1771.9
7.5°	1725.9	1755.2	1740.4	1743.7	1757.9
10°	1711.9	1741.2	1724.4	1729.6	1741.9
12.5°	1693.9	1721.2	1708.4	1713.7	1725.9
15°	1666.9	1691.3	1676.9	1684.7	1696.9
17.5°	1626.9	1653.3	1637.9	1642.2	1654.4
20°	1596.9	1621.4	1611.9	1612.2	1624.4
22.5°	1560.9	1587.3	1579.9	1574.2	1588.4
25°	1504.4	1528.9	1524.4	1517.2	1526.9
27.5°	1448.5	1466.6	1458.0	1450.6	1458.0
30°	1404.5	1426.5	1412.0	1404.7	1412.0
32.5°	1356.5	1378.5	1364.0	1354.6	1358.0
35°	1282.0	1301.6	1289.5	1277.0	1277.0
37.5°	1211.6	1224.3	1216.1	1194.9	1189.6
40°	1159.6	1174.2	1162.1	1136.9	1129.6
42.5°	1105.6	1120.3	1106.1	1078.8	1067.6
45°	1027.1	1036.9	1019.6	989.3	974.6
47.5°	946.2	956.4	932.7	899.3	881.7
50°	892.2	904.4	874.7	839.2	819.7
52.5°	840.2	848.5	820.7	779.3	761.7
55°	757.2	767.0	739.7	694.2	672.3
57.5°	679.8	689.0	656.8	613.4	596.3
60°	629.8	637.1	604.8	559.4	542.3
62.5°	573.8	581.1	550.8	511.4	494.3
65°	499.8	502.3	477.3	442.1	429.8
67.5°	430.3	430.3	409.4	383.1	373.4
70°	382.4	382.4	367.4	347.2	337.4
72.5°	338.4	336.4	327.4	313.2	305.4
75°	269.9	269.9	274.9	267.3	262.4
77.5°	209.9	206.0	227.4	226.4	223.9
80°	169.9	169.9	197.4	202.4	199.9
82.5°	134.0	137.9	173.4	180.4	177.9
85°	82.5	99.6	137.4	147.4	147.4
87.5°	37.5	67.5	108.4	121.6	122.1
90°	7.5	50.1	92.1	108.2	110.7
92.5°	18.0	41.1	78.7	95.7	100.9
95°	33.5	38.3	61.0	79.6	84.2
97.5°	45.1	45.1	100.5	71.0	71.4
100°	50.2	50.8	155.4	79.5	71.9
102.5°	53.3	54.7	191.7	132.0	90.9
105°	57.9	61.0	204.9	268.4	190.2
107.5°	62.6	61.7	190.7	371.8	351.6
110°	65.7	66.0	183.6	386.0	416.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	70.8	71.1	178.5	371.4	421.0
115°	76.0	78.7	170.9	349.7	407.9
117.5°	80.8	86.3	168.4	324.4	384.3
120°	84.8	91.3	163.0	305.5	367.9
122.5°	89.0	94.5	158.8	290.9	348.3
125°	94.0	100.5	158.8	273.3	323.2
127.5°	97.2	106.8	159.0	252.9	302.2
130°	98.6	111.0	159.9	239.2	286.0
132.5°	98.8	111.3	157.9	233.1	271.5
135°	104.2	115.6	157.4	225.1	258.4
137.5°	109.5	121.8	157.4	216.3	244.7
140°	113.8	125.2	157.4	211.1	237.1
142.5°	118.0	128.6	158.2	205.1	229.4
145°	123.3	133.7	158.4	196.1	216.9
147.5°	129.7	138.9	159.7	189.6	205.6
150°	134.0	142.3	160.5	185.3	198.8
152.5°	138.2	145.7	160.5	181.8	192.9
155°	144.6	149.8	161.6	177.7	186.1
157.5°	149.7	154.7	162.9	175.1	181.2
160°	153.1	157.3	163.7	173.4	178.6
162.5°	155.7	159.8	164.6	172.5	176.1
165°	160.5	162.6	165.9	170.2	173.3
167.5°	163.3	165.2	166.9	169.1	171.0
170°	165.9	166.9	166.9	169.1	170.1
172.5°	166.7	168.6	167.8	168.2	169.3
175°	169.0	170.1	169.0	168.0	166.9
177.5°	169.0	169.9	169.0	169.0	168.2
180°	169.0	169.0	169.0	169.0	169.0

(END OF REPORT)