

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: P644284

Luminaire Tested: CRQ4DIP-SR4F0-125D25U840-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644284  
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-SR4F0-125D25U840-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: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

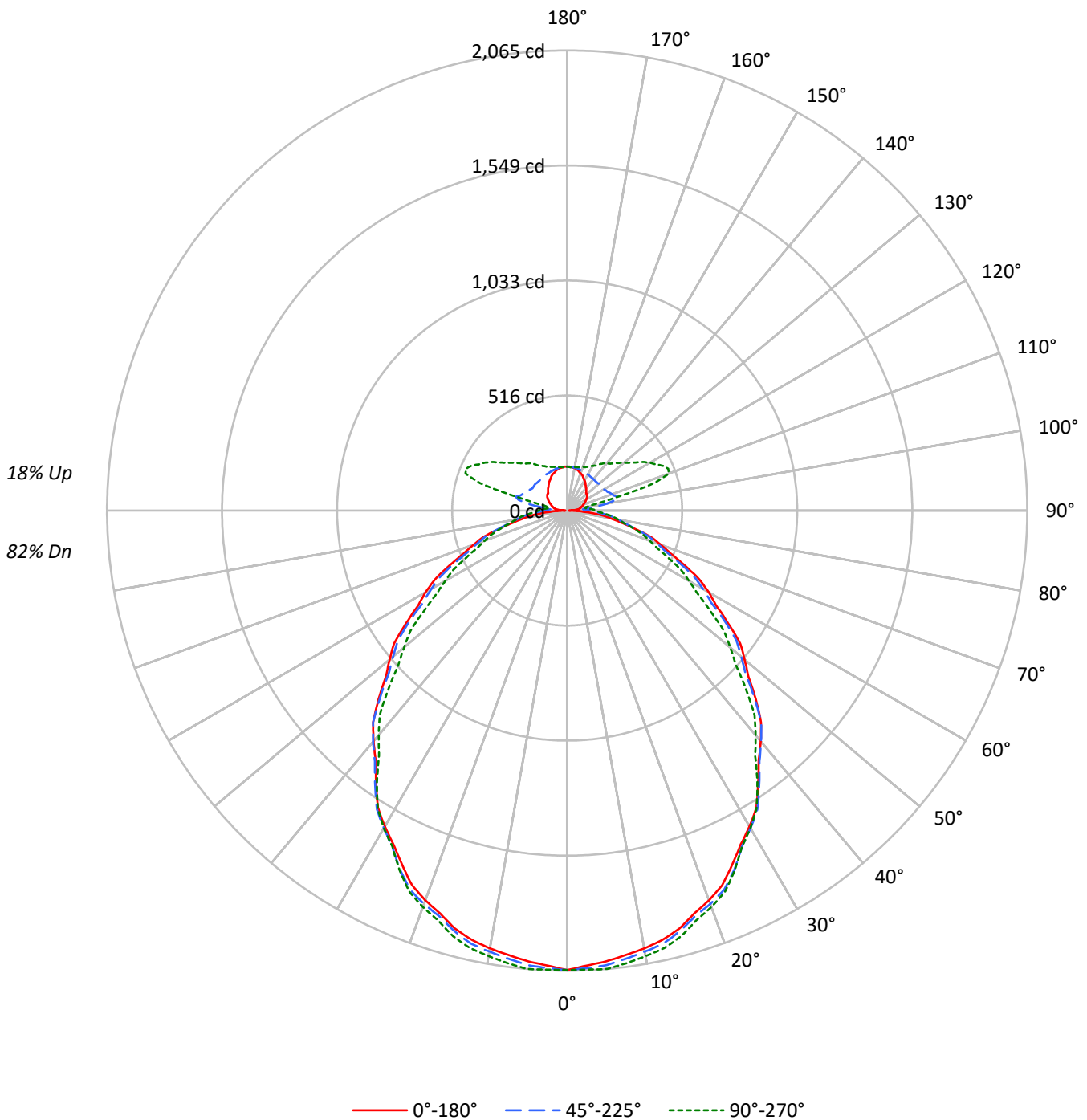
Lumens per Lamp: N/A  
Luminaire Lumens: 6374.6 lumens  
Efficiency: N/A  
Efficacy: 132.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

Input Watts (W): 48.3  
Input Voltage (V): 120  
Input Current (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	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°	33293	33293	33293
5°	32663	29395	28483
10°	32234	26154	24605
15°	31762	23421	21521
20°	31034	21011	18824
25°	30067	18762	16404
30°	29115	16578	14238
35°	27826	14581	12221
40°	26622	12765	10360
45°	25229	10971	8646
50°	23756	9292	7092
55°	22200	7819	5719
60°	20710	6408	4572
65°	18880	5110	3618
70°	17117	4004	2858
75°	14965	3076	2254
80°	12502	2287	1755
85°	9118	1664	1334

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 25229 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	194.6	3.1
10°-20°	552.3	8.7
20°-30°	815.3	12.8
30°-40°	937.4	14.7
40°-50°	909.3	14.3
50°-60°	761.2	11.9
60°-70°	548.4	8.6
70°-80°	335.1	5.3
80°-90°	163.2	2.6
90°-100°	88.7	1.4
100°-110°	195.9	3.1
110°-120°	242.5	3.8
120°-130°	194.1	3.0
130°-140°	153.8	2.4
140°-150°	120.9	1.9
150°-160°	88.4	1.4
160°-170°	54.9	0.9
170°-180°	18.7	0.3
0°-30°	1562.2	24.5
0°-40°	2499.6	39.2
0°-60°	4170.0	65.4
0°-90°	5216.7	81.8
90°-120°	527.1	8.3
90°-150°	995.9	15.6
90°-180°	1158.0	18.2
0°-180°	6374.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2062	2062	2062	2062	2062	
5°	2030	2067	2047	2051	2065	193
15°	1943	1971	1954	1963	1978	546
25°	1753	1782	1777	1768	1780	808
35°	1494	1517	1503	1488	1488	936
45°	1197	1208	1188	1153	1136	923
55°	882	894	862	809	783	791
65°	582	585	556	515	501	579
75°	314	314	320	312	306	336
85°	96	116	160	172	172	101
90°	9	58	107	126	129	11
95°	39	45	71	93	98	36
105°	68	71	239	313	222	71
115°	88	92	199	408	475	87
125°	110	117	185	318	377	97
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: P644284

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2062.0	2062.0	2062.0	2062.0	2062.0
2.5°	2043.4	2073.0	2055.0	2059.7	2062.0
5°	2030.0	2067.0	2047.4	2050.7	2064.9
7.5°	2011.3	2045.5	2028.2	2032.1	2048.6
10°	1995.0	2029.2	2009.6	2015.7	2030.0
12.5°	1974.0	2005.9	1990.9	1997.1	2011.3
15°	1942.6	1971.1	1954.2	1963.3	1977.5
17.5°	1896.0	1926.8	1908.8	1913.8	1928.0
20°	1861.0	1889.5	1878.5	1878.8	1893.1
22.5°	1819.1	1849.9	1841.2	1834.6	1851.1
25°	1753.3	1781.8	1776.6	1768.1	1779.5
27.5°	1688.0	1709.1	1699.1	1690.6	1699.1
30°	1636.8	1662.4	1645.5	1637.0	1645.5
32.5°	1580.9	1606.5	1589.6	1578.6	1582.6
35°	1494.1	1516.9	1502.8	1488.3	1488.3
37.5°	1411.9	1426.8	1417.2	1392.6	1386.3
40°	1351.4	1368.5	1354.3	1325.0	1316.4
42.5°	1288.5	1305.5	1289.0	1257.3	1244.2
45°	1197.0	1208.4	1188.3	1152.9	1135.9
47.5°	1102.6	1114.6	1086.9	1048.0	1027.5
50°	1039.7	1054.0	1019.4	978.1	955.3
52.5°	979.2	988.8	956.4	908.2	887.7
55°	882.5	893.9	862.1	809.1	783.4
57.5°	792.2	803.0	765.4	714.8	694.9
60°	733.9	742.5	704.8	651.9	632.0
62.5°	668.7	677.2	641.9	596.0	576.1
65°	582.5	585.3	556.3	515.2	500.9
67.5°	501.5	501.5	477.1	446.5	435.1
70°	445.6	445.6	428.1	404.6	393.2
72.5°	394.3	392.1	381.5	365.0	355.9
75°	314.5	314.5	320.4	311.5	305.8
77.5°	244.6	240.1	265.0	263.8	261.0
80°	198.0	198.0	230.1	235.8	233.0
82.5°	156.1	160.7	202.1	210.2	207.4
85°	96.1	116.0	160.2	171.8	171.8
87.5°	43.7	78.7	126.3	141.7	142.3
90°	8.7	58.4	107.3	126.1	129.0
92.5°	21.0	47.9	91.7	111.5	117.6
95°	39.0	44.7	71.1	92.8	98.1
97.5°	52.5	52.6	117.1	82.7	83.2
100°	58.5	59.2	181.2	92.7	83.8
102.5°	62.1	63.7	223.4	153.8	105.9
105°	67.5	71.0	238.8	312.8	221.6
107.5°	73.0	72.0	222.3	433.3	409.8
110°	76.6	76.9	214.0	449.8	485.4

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	82.5	82.8	208.0	432.8	490.6
115°	88.5	91.7	199.1	407.6	475.4
117.5°	94.2	100.5	196.3	378.1	447.9
120°	98.8	106.4	190.0	356.0	428.7
122.5°	103.8	110.1	185.1	339.0	405.9
125°	109.5	117.2	185.1	318.5	376.7
127.5°	113.2	124.5	185.3	294.7	352.1
130°	114.9	129.4	186.3	278.8	333.3
132.5°	115.2	129.7	184.0	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)