

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: P644292

Luminaire Tested: CRQ4DIP-SR4F0-125D50U830-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644292  
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-SR4F0-125D50U830-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 500 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

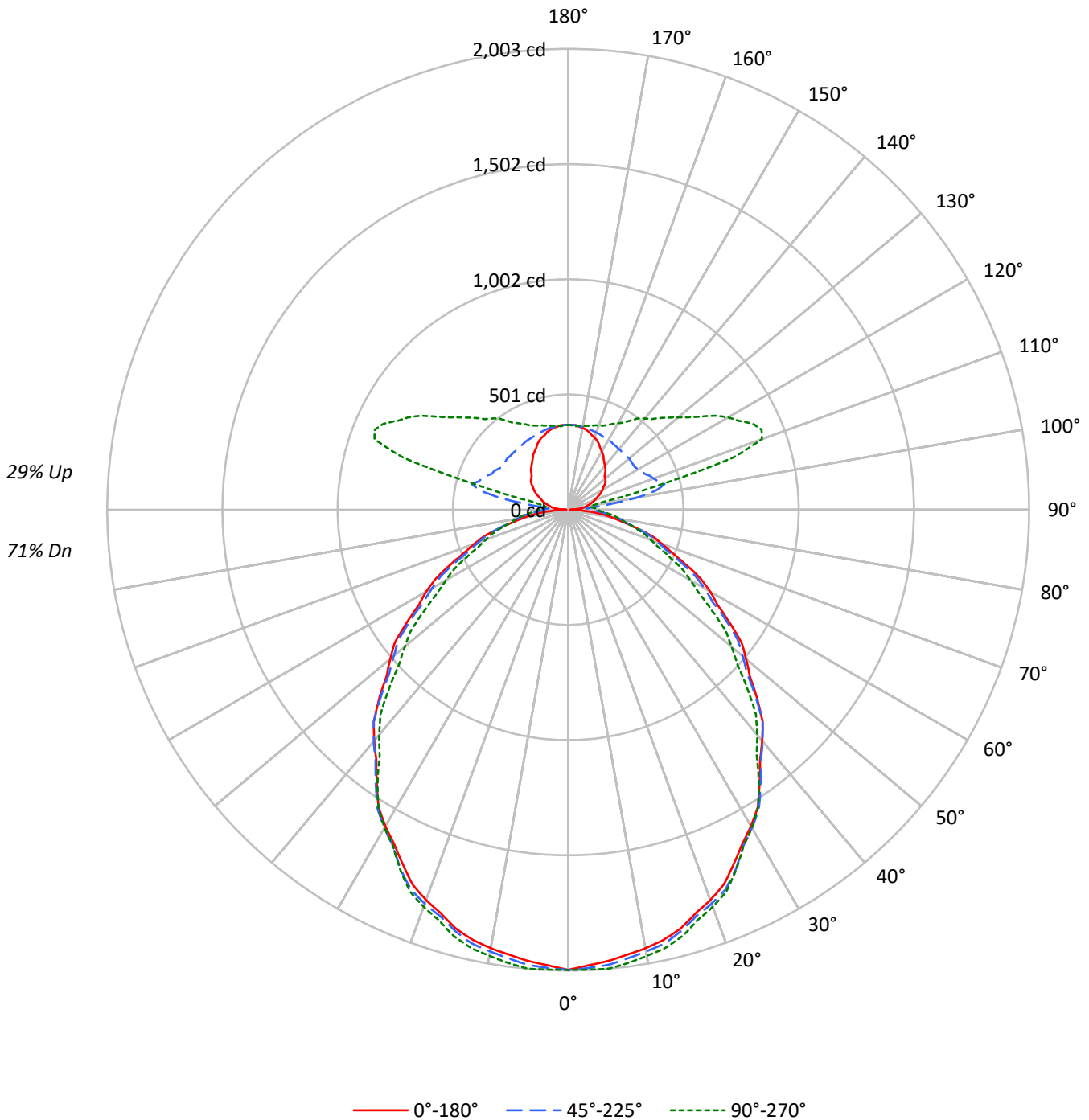
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7139.7 lumens  
Efficiency: N/A  
Efficacy: 130.8 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): 54.6  
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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	102	98	93	90	97	93	89	86	83	80	78	74	72	70	66	65	63	59
2	93	85	79	74	88	81	75	70	73	68	64	65	62	59	58	56	53	50
3	85	75	68	61	80	71	65	59	64	59	54	58	54	50	52	48	46	42
4	78	67	59	52	74	64	56	50	57	51	47	52	47	43	46	43	39	36
5	72	60	51	45	68	57	49	44	52	45	40	47	41	37	42	38	34	32
6	66	54	45	39	63	51	44	38	47	40	35	42	37	33	38	34	30	28
7	61	49	40	35	58	47	39	34	42	36	31	39	33	29	35	31	27	25
8	57	44	36	31	54	42	35	30	39	33	28	35	30	26	32	28	24	22
9	53	41	33	28	50	39	32	27	36	30	25	33	27	24	30	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	22	28	23	20	18

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

	0°	45°	90°
0°	32300	32300	32300
5°	31688	28519	27633
10°	31273	25373	23870
15°	30815	22723	20880
20°	30109	20385	18263
25°	29170	18202	15914
30°	28247	16083	13813
35°	26995	14146	11856
40°	25828	12384	10051
45°	24477	10643	8388
50°	23048	9015	6880
55°	21536	7585	5548
60°	20092	6217	4435
65°	18316	4957	3511
70°	16606	3885	2773
75°	14523	2984	2187
80°	12129	2219	1703
85°	8843	1614	1294

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 24477 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	188.8	2.6
10°-20°	535.8	7.5
20°-30°	791.0	11.1
30°-40°	909.4	12.7
40°-50°	882.2	12.4
50°-60°	738.5	10.3
60°-70°	532.0	7.5
70°-80°	325.1	4.6
80°-90°	158.8	2.2
90°-100°	107.9	1.5
100°-110°	345.8	4.8
110°-120°	446.7	6.3
120°-130°	360.3	5.0
130°-140°	287.6	4.0
140°-150°	226.4	3.2
150°-160°	165.6	2.3
160°-170°	102.8	1.4
170°-180°	35.1	0.5
0°-30°	1515.6	21.2
0°-40°	2425.0	34.0
0°-60°	4045.6	56.7
0°-90°	5061.5	70.9
90°-120°	900.3	12.6
90°-150°	1774.7	24.9
90°-180°	2078.0	29.1
0°-180°	7139.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2000	2000	2000	2000	2000	
5°	1969	2005	1986	1990	2003	187
15°	1885	1912	1896	1905	1919	530
25°	1701	1729	1724	1715	1726	784
35°	1450	1472	1458	1444	1444	908
45°	1161	1172	1153	1119	1102	895
55°	856	867	836	785	760	768
65°	565	568	540	500	486	562
75°	305	305	311	302	297	326
85°	93	113	155	167	167	98
90°	8	58	106	126	128	11
95°	47	60	78	100	108	45
105°	100	122	434	562	386	106
115°	147	164	368	758	885	146
125°	195	214	344	596	705	173
135°	227	252	343	491	564	176
145°	269	292	346	428	473	169
155°	316	327	353	388	406	145
165°	350	355	362	371	378	98
175°	369	371	369	366	364	35
180°	369	369	369	369	369	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2000.5	2000.5	2000.5	2000.5	2000.5
2.5°	1982.4	2011.2	1993.7	1998.3	2000.5
5°	1969.4	2005.3	1986.4	1989.5	2003.3
7.5°	1951.3	1984.5	1967.7	1971.5	1987.5
10°	1935.5	1968.7	1949.6	1955.6	1969.4
12.5°	1915.2	1946.1	1931.6	1937.5	1951.3
15°	1884.7	1912.3	1896.0	1904.8	1918.6
17.5°	1839.4	1869.3	1851.9	1856.7	1870.5
20°	1805.5	1833.2	1822.5	1822.8	1836.6
22.5°	1764.9	1794.7	1786.3	1779.9	1795.9
25°	1701.0	1728.6	1723.6	1715.4	1726.4
27.5°	1637.7	1658.1	1648.4	1640.2	1648.4
30°	1588.0	1612.8	1596.4	1588.2	1596.4
32.5°	1533.7	1558.6	1542.2	1531.5	1535.4
35°	1449.5	1471.6	1458.0	1443.9	1443.9
37.5°	1369.8	1384.2	1374.9	1351.1	1345.0
40°	1311.1	1327.6	1313.9	1285.4	1277.2
42.5°	1250.0	1266.6	1250.6	1219.8	1207.1
45°	1161.3	1172.4	1152.8	1118.6	1102.0
47.5°	1069.8	1081.4	1054.5	1016.8	996.9
50°	1008.7	1022.5	989.0	948.9	926.8
52.5°	950.0	959.4	927.9	881.1	861.2
55°	856.1	867.2	836.4	784.9	760.1
57.5°	768.6	779.1	742.6	693.5	674.2
60°	712.0	720.3	683.8	632.5	613.1
62.5°	648.8	657.0	622.8	578.2	558.9
65°	565.1	567.9	539.7	499.8	486.0
67.5°	486.6	486.6	462.8	433.2	422.1
70°	432.3	432.3	415.4	392.5	381.5
72.5°	382.6	380.4	370.2	354.1	345.3
75°	305.2	305.2	310.8	302.2	296.7
77.5°	237.3	232.9	257.1	255.9	253.2
80°	192.1	192.1	223.2	228.8	226.0
82.5°	151.5	155.9	196.1	203.9	201.2
85°	93.2	112.6	155.4	166.7	166.7
87.5°	42.4	76.5	123.0	138.2	138.7
90°	8.5	57.7	106.4	125.7	128.5
92.5°	23.1	50.2	93.8	115.1	121.9
95°	46.8	59.9	77.9	100.2	107.5
97.5°	66.8	82.8	179.4	99.7	97.5
100°	78.0	97.2	307.7	128.7	107.0
102.5°	86.9	107.9	395.1	251.7	158.8
105°	100.2	122.2	434.0	562.0	386.0
107.5°	113.5	126.5	408.8	796.6	749.9
110°	122.4	135.8	395.4	831.7	895.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	133.5	146.9	384.3	804.0	909.7
115°	147.4	163.5	367.6	757.9	884.9
117.5°	161.1	180.2	362.8	705.8	836.5
120°	171.9	191.3	353.1	666.6	802.7
122.5°	181.2	200.2	343.8	634.8	760.0
125°	194.6	214.0	343.8	596.4	705.2
127.5°	204.6	227.8	344.3	551.8	659.3
130°	209.8	237.0	346.2	522.0	624.1
132.5°	214.6	241.8	343.9	508.6	592.5
135°	227.3	252.3	343.3	491.1	563.7
137.5°	238.9	265.7	343.3	471.9	534.0
140°	248.2	273.2	343.3	460.6	517.3
142.5°	257.5	280.6	345.2	447.6	500.6
145°	269.1	291.8	345.7	427.9	473.3
147.5°	283.0	303.0	348.4	413.7	448.7
150°	292.3	310.5	350.3	404.3	433.8
152.5°	301.6	317.9	350.3	396.8	420.8
155°	315.5	326.8	352.6	387.8	406.0
157.5°	326.6	337.5	355.4	382.2	395.3
160°	334.1	343.1	357.3	378.4	389.7
162.5°	339.6	348.7	359.1	376.5	384.2
165°	350.3	354.8	361.9	371.3	378.1
167.5°	356.3	360.4	364.2	369.0	373.0
170°	361.9	364.2	364.2	368.9	371.2
172.5°	363.8	367.8	366.1	367.1	369.3
175°	368.9	371.1	368.9	366.5	364.2
177.5°	368.9	370.7	368.9	368.8	367.0
180°	368.9	368.9	368.9	368.9	368.9

(END OF REPORT)