

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: P644304

Luminaire Tested: CRQ4DIP-SR4F0-125D75U830-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644304  
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-SR4F0-125D75U830-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

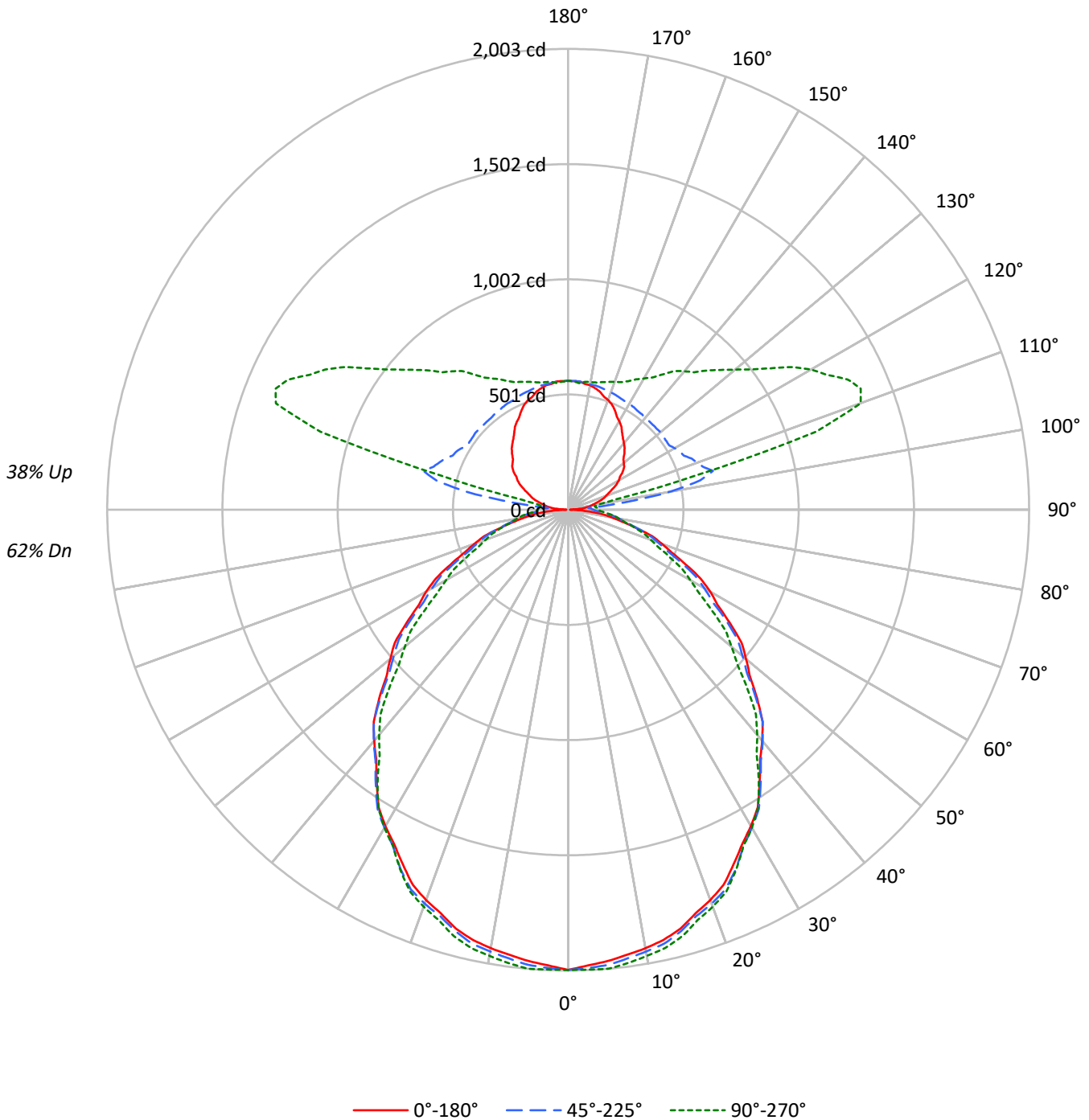
Lumens per Lamp: N/A  
Luminaire Lumens: 8165.6 lumens  
Efficiency: N/A  
Efficacy: 134.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Direct

Input Watts (W): 60.8  
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										
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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62																				
1	100	96	92	88	94	90	86	83	79	76	74	68	66	65	59	58	56	52																				
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	50	47	43																				
3	83	74	66	60	78	69	63	57	61	56	51	53	49	46	46	43	41	37																				
4	76	65	57	51	71	62	54	49	54	49	44	48	43	39	41	38	35	32																				
5	70	58	50	44	66	55	48	42	49	43	38	43	38	34	37	34	31	28																				
6	65	53	44	38	61	50	42	37	44	38	33	39	34	30	34	30	27	24																				
7	60	48	39	34	56	45	38	32	40	34	30	35	31	27	31	27	24	22																				
8	56	43	35	30	52	41	34	29	37	31	26	32	28	24	29	25	22	19																				
9	52	40	32	27	49	38	31	26	34	28	24	30	25	22	26	23	20	18																				
10	49	36	29	24	46	35	28	23	31	25	21	28	23	20	25	21	18	16																				

**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	2.3
10°-20°	535.8	6.6
20°-30°	791.0	9.7
30°-40°	909.4	11.1
40°-50°	882.2	10.8
50°-60°	738.5	9.0
60°-70°	532.0	6.5
70°-80°	325.1	4.0
80°-90°	159.2	1.9
90°-100°	131.3	1.6
100°-110°	513.1	6.3
110°-120°	673.7	8.3
120°-130°	545.2	6.7
130°-140°	436.2	5.3
140°-150°	343.6	4.2
150°-160°	251.2	3.1
160°-170°	156.1	1.9
170°-180°	53.2	0.7
0°-30°	1515.6	18.6
0°-40°	2425.0	29.7
0°-60°	4045.6	49.5
0°-90°	5062.0	62.0
90°-120°	1318.1	16.1
90°-150°	2643.2	32.4
90°-180°	3104.0	38.0
0°-180°	8165.6	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	59	109	129	132	12
95°	56	78	88	111	121	55
105°	137	179	651	840	570	145
115°	213	244	555	1147	1340	211
125°	289	322	520	905	1070	257
135°	345	383	521	745	856	266
145°	408	443	525	649	718	257
155°	479	496	535	589	616	220
165°	532	538	549	564	574	149
175°	560	563	560	556	553	53
180°	560	560	560	560	560	



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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	76.8	123.5	138.9	139.4
90°	8.5	58.9	108.8	129.3	132.1
92.5°	26.0	54.3	99.1	122.6	130.3
95°	56.4	77.8	87.5	111.0	120.7
97.5°	83.9	117.0	250.0	120.5	115.5
100°	100.8	140.0	449.3	170.4	134.7
102.5°	115.4	157.4	586.7	361.8	219.1
105°	137.4	179.3	651.4	839.6	569.7
107.5°	159.4	187.4	616.3	1200.6	1128.3
110°	174.0	201.5	597.1	1256.2	1351.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	190.9	218.4	580.2	1216.5	1375.6
115°	213.4	243.7	554.9	1147.2	1340.0
117.5°	236.1	269.0	548.0	1070.0	1268.3
120°	253.5	285.9	534.4	1011.6	1218.1
122.5°	267.6	300.5	520.4	963.3	1153.3
125°	289.4	321.8	520.4	905.0	1070.3
127.5°	306.5	342.8	521.1	837.4	1000.5
130°	315.5	356.8	523.9	792.1	947.0
132.5°	325.0	366.3	521.6	771.8	899.2
135°	345.0	382.9	521.0	745.3	855.5
137.5°	362.6	403.2	521.0	716.1	810.4
140°	376.7	414.6	521.0	699.0	785.1
142.5°	390.8	425.9	523.9	679.2	759.7
145°	408.4	442.8	524.6	649.4	718.2
147.5°	429.5	459.8	528.8	627.9	680.9
150°	443.6	471.1	531.6	613.6	658.3
152.5°	457.7	482.5	531.6	602.1	638.6
155°	478.8	496.0	535.1	588.6	616.1
157.5°	495.7	512.2	539.4	579.9	599.9
160°	507.0	520.7	542.2	574.2	591.5
162.5°	515.4	529.2	545.0	571.3	583.0
165°	531.6	538.5	549.2	563.5	573.9
167.5°	540.8	547.0	552.7	559.9	566.1
170°	549.2	552.7	552.7	559.9	563.3
172.5°	552.0	558.2	555.5	557.0	560.5
175°	559.8	563.2	559.8	556.2	552.7
177.5°	559.8	562.5	559.8	559.7	557.0
180°	559.8	559.8	559.8	559.8	559.8

(END OF REPORT)