

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: P644188

Luminaire Tested: CRQ4DIP-SR4F0-100D125U840-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644188  
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-SR4F0-100D125U840-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 1250 LUMENS PER FOOT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

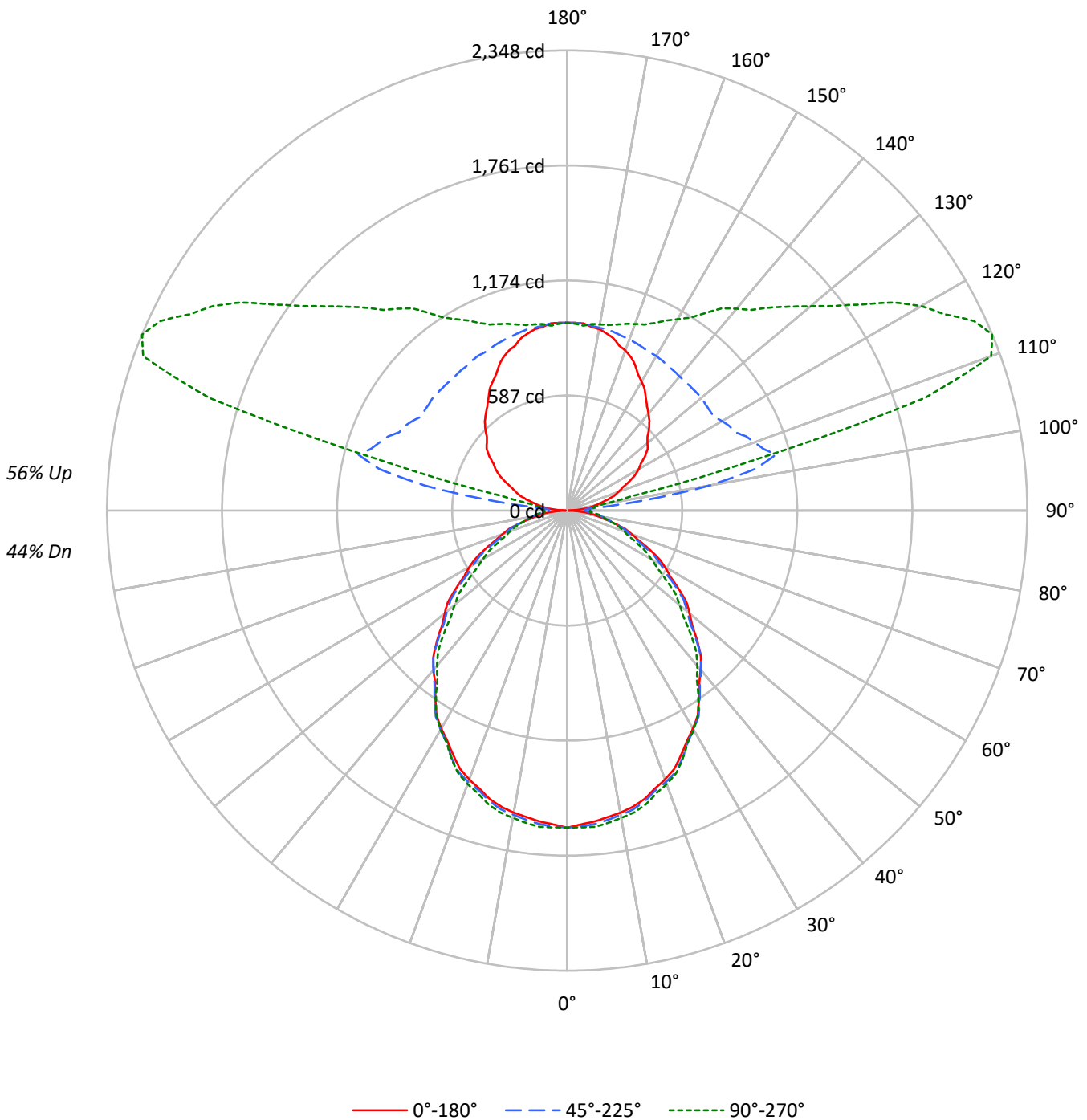
Lumens per Lamp: N/A  
Luminaire Lumens: 9322.9 lumens  
Efficiency: N/A  
Efficacy: 136.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

Input Watts (W): 68.1  
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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44				44
1	96	92	88	84	88	84	81	78	70	67	65	57	55	53	44	43	42				37	
2	88	80	74	69	80	74	68	64	61	57	54	50	47	45	39	37	36				31	
3	80	71	63	58	73	65	59	53	54	49	46	44	41	38	35	32	30				26	
4	73	63	55	49	67	58	51	45	48	43	39	39	36	33	31	28	26				23	
5	67	56	48	42	61	51	44	39	43	38	34	35	31	28	28	25	23				20	
6	62	50	42	36	56	46	39	34	39	33	29	32	28	25	26	23	20				17	
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	23	20	18				15	
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	21	18	16				14	
9	49	37	30	25	45	35	28	23	29	24	20	24	20	18	20	17	15				12	
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	18	15	13				11	

**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	1.6
10°-20°	433.3	4.6
20°-30°	639.6	6.9
30°-40°	735.3	7.9
40°-50°	713.3	7.7
50°-60°	597.1	6.4
60°-70°	430.2	4.6
70°-80°	262.9	2.8
80°-90°	129.9	1.4
90°-100°	168.4	1.8
100°-110°	858.3	9.2
110°-120°	1146.8	12.3
120°-130°	930.8	10.0
130°-140°	746.9	8.0
140°-150°	588.6	6.3
150°-160°	430.4	4.6
160°-170°	267.3	2.9
170°-180°	91.2	1.0
0°-30°	1225.5	13.1
0°-40°	1960.8	21.0
0°-60°	3271.3	35.1
0°-90°	4094.2	43.9
90°-120°	2173.6	23.3
90°-150°	4439.9	47.6
90°-180°	5229.0	56.1
0°-180°	9322.9	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	51	94	114	116	11
95°	71	110	96	119	133	73
105°	210	297	1103	1415	948	221
115°	348	410	945	1960	2290	345
125°	486	546	889	1550	1833	431
135°	591	656	892	1277	1465	455
145°	700	758	898	1112	1230	439
155°	820	850	917	1008	1055	376
165°	911	922	941	965	983	256
175°	959	965	959	953	947	91
180°	959	959	959	959	959	



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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	62.7	101.1	114.2	114.7
90°	6.9	50.7	94.3	114.1	116.3
92.5°	28.6	54.6	94.2	118.9	127.7
95°	71.1	110.1	96.2	118.6	132.6
97.5°	113.0	185.3	389.3	152.6	141.2
100°	142.0	226.6	739.0	248.4	182.1
102.5°	169.1	258.4	982.5	584.3	337.0
105°	209.8	296.6	1102.9	1415.0	947.8
107.5°	250.5	313.0	1048.4	2042.1	1915.8
110°	277.6	337.2	1017.7	2141.5	2302.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	306.5	366.1	988.7	2077.6	2347.5
115°	347.7	409.5	945.3	1959.8	2290.0
117.5°	389.5	452.9	934.0	1830.7	2170.3
120°	421.5	481.9	912.9	1732.7	2086.5
122.5°	445.6	508.9	888.7	1650.0	1975.5
125°	485.5	545.9	888.7	1550.2	1833.2
127.5°	517.8	582.0	889.9	1434.3	1713.8
130°	535.2	606.0	894.8	1356.8	1622.1
132.5°	555.7	626.5	892.9	1322.0	1540.1
135°	591.0	655.8	892.5	1276.7	1465.4
137.5°	621.1	690.7	892.5	1226.6	1388.2
140°	645.2	710.1	892.5	1197.3	1344.7
142.5°	669.4	729.5	897.3	1163.4	1301.3
145°	699.5	758.5	898.5	1112.2	1230.2
147.5°	735.7	787.6	905.7	1075.5	1166.3
150°	759.8	807.0	910.6	1051.0	1127.7
152.5°	783.9	826.4	910.6	1031.4	1093.9
155°	820.1	849.6	916.6	1008.1	1055.3
157.5°	849.1	877.4	923.8	993.4	1027.6
160°	868.4	891.9	928.7	983.6	1013.1
162.5°	882.8	906.4	933.5	978.6	998.6
165°	910.6	922.4	940.7	965.2	982.9
167.5°	926.2	936.9	946.8	959.1	969.7
170°	940.7	946.6	946.8	958.9	964.8
172.5°	945.5	956.2	951.6	954.1	960.0
175°	958.8	964.7	958.8	952.6	946.8
177.5°	958.8	963.5	958.8	958.7	954.0
180°	958.8	958.8	958.8	958.8	958.8

(END OF REPORT)