

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P644203

Luminaire Tested: CRQ4DIP-SR4F0-100D150U935-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644203
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)
Test Lab: INNOVATION CENTER
Issue Date: 2/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: CRQ4DIP-SR4F0-100D150U935-FLLFLL-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - CURVED FROSTED LENS - 1500 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

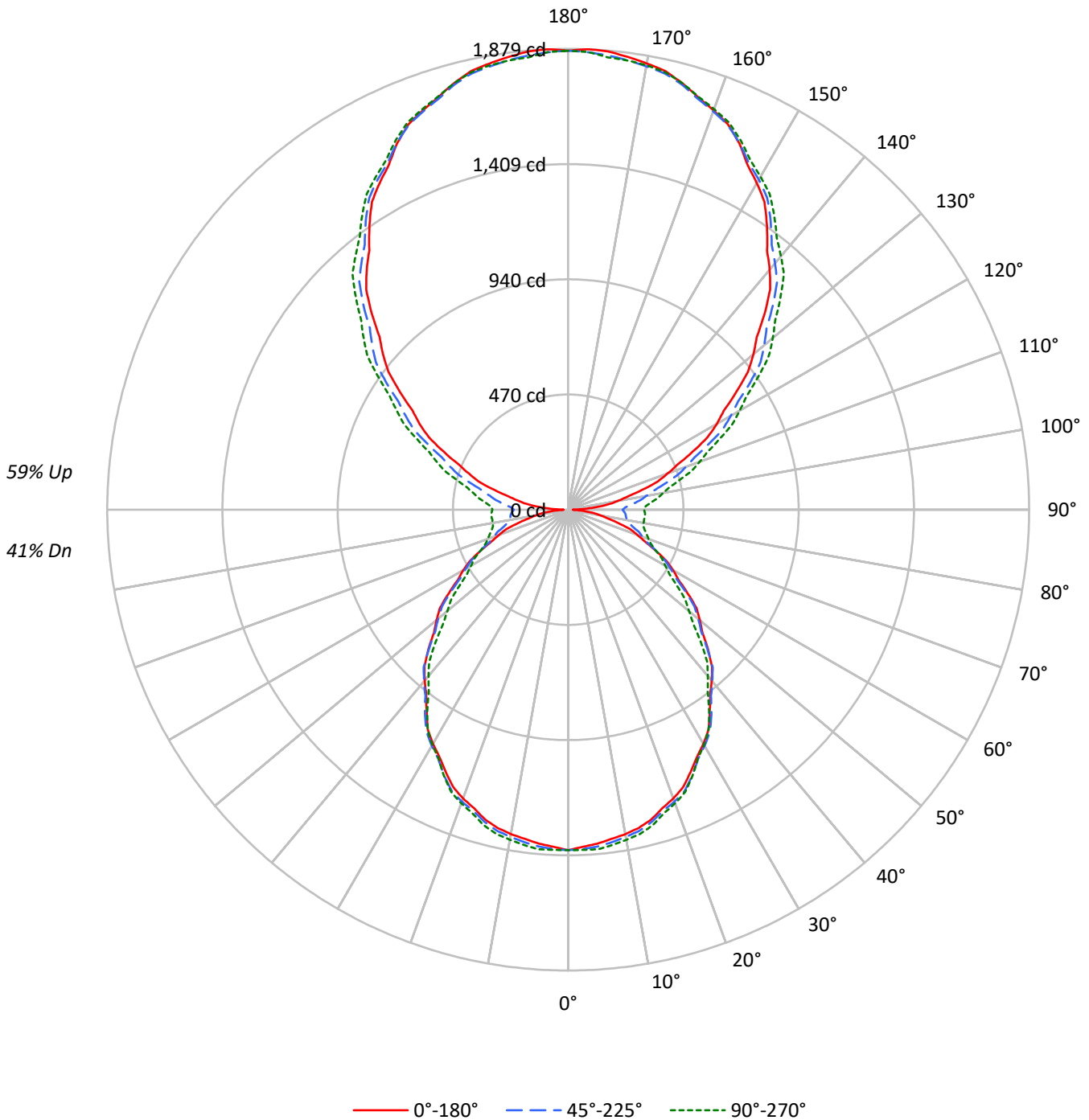
Lumens per Lamp: N/A
Luminaire Lumens: 9105.5 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 78.5
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				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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41
1	95	90	86	83	86	82	79	76	68	65	63	54	52	50	41	40	39	33
2	86	79	73	67	78	72	67	62	59	55	52	47	44	42	36	34	33	27
3	79	69	62	56	71	63	57	52	52	47	43	42	38	35	32	30	28	23
4	72	61	53	47	65	56	49	44	46	41	37	37	33	30	29	26	24	20
5	66	54	46	40	60	50	43	37	41	36	32	33	29	26	26	23	21	17
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	21	18	15
7	56	44	36	31	51	40	33	29	34	28	24	27	23	20	21	18	16	14
8	52	40	32	27	47	37	30	25	31	25	22	25	21	18	20	17	15	12
9	49	36	29	24	44	34	27	22	28	23	19	23	19	16	18	15	13	11
10	45	33	26	21	41	31	24	20	26	21	17	21	17	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22410	22410	22410
5°	21987	19787	19174
10°	21698	17631	16563
15°	21380	15790	14488
20°	20890	14166	12671
25°	20239	12629	11042
30°	19599	11199	9584
35°	18730	9873	8226
40°	17921	8611	6973
45°	16984	7404	5820
50°	15992	6309	4774
55°	14942	5299	3951
60°	13940	4386	3307
65°	12709	3622	2837
70°	11524	3012	2530
75°	10074	2624	2381
80°	8417	2428	2349
85°	6139	2441	2440

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16984 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.1	1.4
10°-20°	372.1	4.1
20°-30°	549.5	6.0
30°-40°	632.5	6.9
40°-50°	614.0	6.7
50°-60°	519.1	5.7
60°-70°	395.6	4.3
70°-80°	288.9	3.2
80°-90°	231.1	2.5
90°-100°	266.1	2.9
100°-110°	423.2	4.6
110°-120°	622.5	6.8
120°-130°	805.0	8.8
130°-140°	910.5	10.0
140°-150°	899.6	9.9
150°-160°	760.9	8.4
160°-170°	506.6	5.6
170°-180°	177.2	1.9
0°-30°	1052.6	11.6
0°-40°	1685.1	18.5
0°-60°	2818.3	31.0
0°-90°	3733.9	41.0
90°-120°	1311.8	14.4
90°-150°	3926.9	43.1
90°-180°	5372.0	59.0
0°-180°	9105.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1366	1391	1378	1380	1390	130
15°	1308	1331	1318	1322	1331	368
25°	1180	1203	1196	1190	1198	544
35°	1006	1027	1018	1002	1002	630
45°	806	819	802	776	765	621
55°	594	610	584	551	541	533
65°	392	406	394	393	393	390
75°	212	227	273	311	323	226
85°	65	125	235	297	314	69
90°	20	105	222	288	309	17
95°	109	148	262	325	339	109
105°	312	327	405	461	471	332
115°	560	584	632	670	679	556
125°	836	866	906	938	946	749
135°	1132	1158	1180	1210	1224	873
145°	1412	1430	1438	1449	1464	882
155°	1649	1659	1651	1653	1663	757
165°	1800	1808	1794	1788	1800	507
175°	1875	1883	1860	1852	1852	178
180°	1872	1872	1872	1872	1872	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.0	<i>1388.0</i>	1388.0	1388.0	1388.0
2.5°	1375.5	<i>1395.4</i>	1384.9	1386.5	1388.0
5°	1366.5	<i>1391.4</i>	1378.2	1380.4	1390.0
7.5°	1353.9	<i>1378.5</i>	1367.3	1367.9	1379.0
10°	1342.9	<i>1365.9</i>	1354.7	1356.9	1366.5
12.5°	1328.8	<i>1353.4</i>	1340.6	1344.3	1353.9
15°	1307.6	<i>1330.7</i>	1317.5	1321.6	1331.2
17.5°	1276.3	<i>1298.9</i>	1286.9	1288.3	1297.8
20°	1252.7	<i>1273.9</i>	1266.5	1264.7	1274.3
22.5°	1224.5	<i>1247.2</i>	1241.4	1235.0	1246.1
25°	1180.2	<i>1203.3</i>	1195.9	1190.2	1197.9
27.5°	1136.3	<i>1157.5</i>	1146.1	1138.0	1143.7
30°	1101.8	<i>1122.9</i>	1111.6	1101.9	1107.7
32.5°	1064.1	<i>1086.8</i>	1074.0	1062.6	1065.3
35°	1005.7	<i>1026.9</i>	1017.6	1001.8	1001.8
37.5°	950.4	<i>968.2</i>	956.0	937.4	933.2
40°	909.7	<i>928.9</i>	913.6	891.9	886.1
42.5°	867.3	<i>886.6</i>	871.3	846.3	837.5
45°	805.8	<i>819.3</i>	801.9	776.1	764.6
47.5°	742.2	<i>757.7</i>	734.4	705.5	691.7
50°	699.9	<i>715.3</i>	692.1	658.4	643.0
52.5°	659.1	<i>673.0</i>	648.2	613.0	600.7
55°	594.0	<i>609.5</i>	584.3	550.8	541.3
57.5°	533.2	<i>548.3</i>	521.6	499.2	490.0
60°	494.0	<i>507.6</i>	482.4	464.8	457.2
62.5°	450.1	<i>465.2</i>	443.2	435.2	430.7
65°	392.1	<i>405.7</i>	394.3	392.7	392.8
67.5°	337.6	<i>349.2</i>	348.5	360.8	365.2
70°	300.0	<i>311.6</i>	322.0	342.2	348.1
72.5°	265.4	<i>277.1</i>	301.7	328.3	335.7
75°	211.7	<i>227.3</i>	273.3	311.4	323.1
77.5°	164.7	<i>182.6</i>	253.5	300.7	314.7
80°	133.3	<i>160.5</i>	244.3	296.2	311.8
82.5°	105.1	<i>141.6</i>	238.2	296.5	312.0
85°	64.7	<i>124.7</i>	235.0	296.9	314.3
87.5°	32.2	<i>112.7</i>	229.3	293.6	313.4
90°	19.8	<i>104.8</i>	221.6	287.5	308.8
92.5°	53.1	<i>116.6</i>	234.4	298.6	315.3
95°	109.0	<i>147.9</i>	261.7	325.4	339.0
97.5°	164.6	<i>190.4</i>	296.4	355.8	368.9
100°	204.3	<i>223.9</i>	323.5	381.3	392.9
102.5°	247.2	<i>262.2</i>	355.4	410.0	423.2
105°	311.6	<i>327.3</i>	405.2	460.9	470.6
107.5°	383.2	<i>400.1</i>	466.0	518.6	528.7
110°	430.9	<i>452.4</i>	510.5	558.4	570.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	483.4	504.8	556.6	601.4	613.0
115°	560.1	583.5	631.7	669.7	679.4
117.5°	640.4	665.3	709.2	744.8	754.1
120°	699.2	722.5	764.8	798.8	806.6
122.5°	751.6	778.1	820.5	854.5	862.2
125°	836.3	865.5	905.9	937.9	945.7
127.5°	923.3	951.7	988.9	1021.4	1031.5
130°	985.3	1010.6	1043.0	1077.1	1088.7
132.5°	1042.6	1067.9	1097.0	1131.1	1144.3
135°	1132.4	1157.7	1180.1	1210.2	1223.8
137.5°	1218.6	1243.1	1260.4	1284.2	1301.3
140°	1277.4	1298.8	1311.2	1333.4	1349.0
142.5°	1331.5	1352.8	1362.1	1381.1	1396.6
145°	1412.5	1430.0	1438.4	1448.7	1464.2
147.5°	1488.4	1505.5	1509.1	1518.1	1527.8
150°	1537.7	1553.2	1553.6	1557.8	1567.5
152.5°	1583.8	1597.8	1593.3	1596.0	1607.2
155°	1649.0	1658.7	1650.9	1653.1	1662.9
157.5°	1700.6	1710.3	1698.2	1702.0	1709.7
160°	1732.4	1742.1	1728.4	1730.6	1738.4
162.5°	1762.6	1769.2	1757.0	1754.5	1765.4
165°	1799.9	1807.7	1794.0	1788.3	1799.9
167.5°	1831.7	1839.5	1821.4	1815.3	1827.0
170°	1847.6	1855.4	1835.7	1828.0	1839.7
172.5°	1861.9	1869.7	1848.4	1839.1	1847.6
175°	1875.4	1883.2	1859.5	1851.6	1851.6
177.5°	1879.4	1884.1	1866.7	1859.0	1868.3
180°	1871.5	1871.5	1871.5	1871.5	1871.5

(END OF REPORT)