

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: IRiS

Report Number: P1344348

Luminaire Tested: P3A13R20W2N902765DE010 E3A451WMH_4000K

Issue Date: 2/13/2026

Test Information

Test Method: LM-79-2019
Report Number: P1344348
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2510-583-74)
Test Lab: INNOVATION CENTER
Issue Date: 2/13/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: IRiS
Catalog Number: P3A13R20W2N902765DE010 E3A451WMH_4000K
Description: 3in Adjustable Tunable White LED luminaire with, R20 optic, 4000K CCT AND, 90CRI ,
E3A451WMH TRIM
Light Source: -
Ballast/Driver: -

Summary

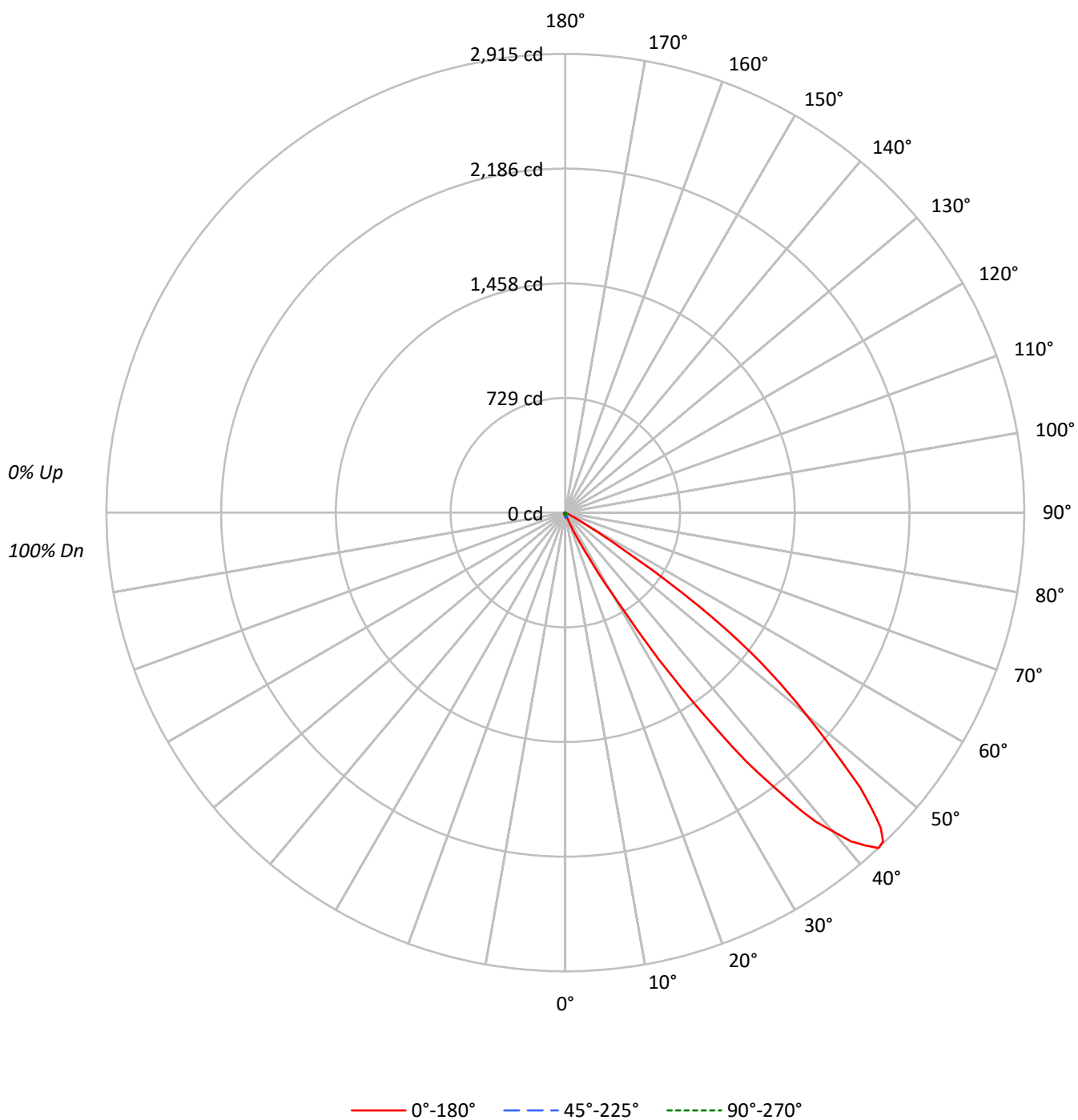
Lumens per Lamp: N/A
Luminaire Lumens: 405.0 lumens
Efficiency: N/A
Efficacy: 32.9 lumens/watt
Spacing Criteria (0/90/45): 3.39 / 0.51 / 1.13
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

Input Watts (W): 12.3
Input Voltage (V): NR
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87		
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73		
3	92	81	74	67	89	80	73	67	77	71	66	74	69	65	72	67	63	61		
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51		
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42		
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35		
7	62	48	39	32	60	47	38	32	46	38	32	44	37	32	43	36	31	29		
8	57	42	33	27	55	42	33	27	40	33	27	39	32	27	38	31	27	25		
9	52	38	29	23	51	37	29	23	36	28	23	35	28	23	34	27	23	21		
10	48	34	25	20	47	33	25	20	32	25	19	31	24	19	30	24	19	17		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	6184	6184	6184	6184	6184
5°	7198	6692	5789	5019	4865
10°	7125	6101	4587	3897	3808
15°	6220	4677	3360	3110	3292
20°	9241	3897	2497	2660	2940
25°	39776	4041	1936	2395	2855
30°	150428	4912	1646	2304	2785
35°	456041	5916	1526	2356	2945
40°	756217	5897	1317	2519	3149
45°	878975	4000	1178	2605	3411
50°	682314	2217	1160	2729	3889
55°	394920	1453	1147	3058	4205
60°	66749	351	1009	3158	4693
65°	5137	0	1193	3580	5344
70°	705	0	1475	3911	6091
75°	678	339	1610	4490	7117
80°	505	505	2399	4799	8208
85°	1006	1006	3774	4780	8554

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 878975 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2.4	0.6
10°-20°	5.1	1.3
20°-30°	16.2	4.0
30°-40°	103.3	25.5
40°-50°	189.0	46.7
50°-60°	77.7	19.2
60°-70°	6.6	1.6
70°-80°	3.3	0.8
80°-90°	1.5	0.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	23.7	5.8
0°-40°	126.9	31.3
0°-60°	393.7	97.2
0°-90°	405.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	405.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	28	28	28	28	28	
5°	33	30	26	23	22	3
15°	27	21	15	14	14	9
25°	164	17	8	10	12	108
35°	1704	22	6	9	11	1078
45°	2834	13	4	8	11	2035
55°	1033	4	3	8	11	903
65°	10	0	2	7	10	32
75°	1	0	2	5	8	1
85°	0	0	2	2	3	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	45°
0°	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2
2.5°	30.8	30.8	30.8	30.4	30.4	30.8	30.4	30.4	30.4	30.4	30.1
5°	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.4	32.4	32.0	30.4
7.5°	33.5	33.5	33.5	33.5	33.1	33.1	33.1	33.1	32.7	32.4	29.7
10°	32.0	32.0	32.0	31.6	31.6	31.6	31.2	31.2	30.8	30.4	27.4
12.5°	28.9	28.9	28.9	28.9	28.5	28.5	28.2	28.2	27.8	27.4	24.0
15°	27.4	27.4	27.4	27.0	27.0	26.6	26.3	25.9	25.5	24.7	20.6
17.5°	29.7	29.7	29.3	29.3	28.5	27.8	27.4	26.3	25.5	24.4	18.3
20°	39.6	40.0	38.4	37.3	36.5	34.3	33.1	31.2	29.7	27.8	16.7
22.5°	79.9	78.4	75.7	71.6	66.6	62.4	54.8	48.7	44.5	38.8	16.4
25°	164.4	162.9	155.7	149.6	134.4	122.6	106.2	92.9	79.2	65.8	16.7
27.5°	312.5	302.2	300.3	272.5	251.2	220.8	189.2	162.5	138.2	111.1	17.9
30°	594.1	582.3	540.8	499.0	441.5	376.4	314.4	256.5	208.2	164.4	19.4
31°	754.0	765.4	716.7	632.6	547.7	464.3	379.5	306.0	243.6	189.2	20.2
32°	991.1	941.2	889.9	803.5	680.1	573.6	467.0	361.2	279.0	215.8	20.9
33°	1215.3	1186.0	1107.6	999.8	851.8	702.2	564.1	426.3	322.4	248.2	21.3
34°	1454.3	1421.9	1358.4	1203.9	1041.3	845.3	661.1	501.3	374.1	279.7	21.7
35°	1703.6	1689.9	1567.3	1433.4	1233.5	997.2	778.0	583.5	424.8	308.7	22.1
36°	1954.4	1910.3	1814.3	1618.7	1410.1	1137.6	900.5	660.0	476.1	342.9	22.1
37°	2143.2	2133.3	2006.2	1815.5	1570.4	1287.6	1006.3	744.8	527.9	372.2	22.1
38°	2351.4	2312.2	2183.1	1989.0	1721.1	1425.0	1117.1	818.7	577.0	398.9	21.7
39°	2526.8	2468.6	2338.4	2146.6	1852.8	1529.3	1205.0	890.2	620.4	420.9	21.3
40°	2641.8	2601.4	2465.6	2249.8	1972.3	1627.8	1294.1	949.2	652.7	437.7	20.6
41°	2768.5	2701.5	2567.2	2350.2	2059.1	1714.6	1350.0	988.1	677.9	448.7	19.8
42°	2844.3	2789.5	2630.0	2417.6	2121.1	1764.1	1395.7	1017.7	693.1	454.4	18.3
43°	2915.1	2840.5	2685.2	2456.8	2162.2	1799.1	1416.6	1031.4	696.5	454.4	16.4
44°	2905.5	2834.7	2673.7	2462.1	2171.4	1809.4	1425.4	1031.8	691.2	448.7	14.5
45°	2834.4	2764.0	2618.9	2415.7	2138.6	1789.2	1407.9	1016.6	676.3	438.8	12.9
46°	2703.8	2633.8	2522.6	2338.1	2077.7	1743.6	1367.1	983.5	651.6	422.9	11.4
47°	2561.9	2493.7	2379.9	2212.8	1973.8	1662.1	1308.1	937.0	617.0	399.6	10.3
48°	2355.9	2313.3	2199.1	2056.4	1829.6	1534.6	1204.6	861.3	570.5	369.6	8.8
49°	2174.0	2129.1	2029.0	1875.6	1641.5	1386.2	1080.9	769.2	510.0	336.1	7.6
50°	2000.1	1960.9	1868.4	1695.2	1471.8	1206.9	913.8	653.1	433.9	294.6	6.5
51°	1829.9	1800.6	1706.3	1547.2	1320.3	1069.1	791.7	543.9	358.5	244.3	6.1
52°	1659.1	1655.6	1553.2	1392.3	1173.0	931.7	672.9	459.0	304.1	205.1	5.7
53°	1475.2	1453.1	1363.7	1219.1	1008.6	788.6	570.5	387.1	261.9	174.7	4.9
54°	1265.9	1241.2	1145.2	1014.7	824.0	645.9	459.8	312.9	218.1	147.7	4.6
55°	1033.0	990.7	921.1	787.1	643.6	492.9	355.1	247.8	174.3	122.9	3.8
56°	783.7	741.4	702.2	603.6	472.3	367.7	264.5	189.9	136.3	97.1	3.4
57°	545.0	542.7	478.4	402.7	315.9	250.4	181.2	134.0	96.3	75.4	2.7
58°	353.6	341.8	300.7	256.9	206.7	156.4	116.5	91.0	65.5	51.4	2.3
59°	247.8	224.2	202.1	171.3	130.2	98.6	75.0	58.2	45.3	35.8	1.5
60°	152.2	147.3	132.5	104.3	84.5	69.7	55.9	43.0	33.1	25.5	0.8
62.5°	43.4	44.2	40.0	35.4	30.4	26.3	23.6	20.2	16.7	13.3	0.0
65°	9.9	9.5	10.3	9.5	8.8	8.8	7.6	6.9	6.1	5.7	0.0



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CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	45°
67.5°	3.0	3.0	2.7	2.7	2.7	2.3	2.3	1.9	1.9	1.5	0.0
70°	1.1	1.1	1.1	1.1	1.1	0.8	0.8	0.8	0.4	0.4	0.0
72.5°	1.1	1.1	1.1	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
77.5°	0.8	0.8	0.8	0.8	0.8	0.4	0.8	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.0	0.0	0.4	0.4	0.4	0.0	0.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	67.5°	90°	112.5°	135°	157.5°	180°
0°	28.2	28.2	28.2	28.2	28.2	28.2
2.5°	29.3	27.8	26.6	25.5	25.1	25.1
5°	28.5	26.3	24.0	22.8	22.1	22.1
7.5°	26.3	23.6	21.3	20.2	19.8	19.8
10°	23.6	20.6	18.3	17.5	17.5	17.1
12.5°	20.6	17.5	16.0	15.6	15.6	15.6
15°	17.1	14.8	13.7	13.7	14.1	14.5
17.5°	14.5	12.2	11.8	12.6	13.3	13.3
20°	12.2	10.7	10.7	11.4	12.2	12.6
22.5°	10.3	9.1	9.5	10.7	11.8	12.2
25°	9.1	8.0	8.8	9.9	11.0	11.8
27.5°	7.6	7.2	8.0	9.5	11.0	11.4
30°	6.5	6.5	7.6	9.1	10.7	11.0
31°	6.1	6.1	7.6	9.1	10.7	11.0
32°	5.7	6.1	7.2	9.1	10.7	11.0
33°	5.3	5.7	7.2	8.8	10.7	11.0
34°	4.9	5.7	7.2	8.8	10.7	11.0
35°	4.6	5.7	7.2	8.8	10.7	11.0
36°	4.2	5.3	6.9	8.8	10.7	11.0
37°	3.8	5.3	6.9	8.8	10.7	11.0
38°	3.4	4.9	6.9	8.8	10.7	11.0
39°	3.4	4.9	6.5	8.8	10.3	11.0
40°	3.0	4.6	6.5	8.8	10.3	11.0
41°	2.7	4.6	6.5	8.4	10.3	11.0
42°	2.3	4.2	6.1	8.4	10.3	11.0
43°	1.9	4.2	6.1	8.4	10.3	11.0
44°	1.9	3.8	6.1	8.4	10.3	11.0
45°	1.5	3.8	6.1	8.4	10.3	11.0
46°	1.1	3.8	6.1	8.4	10.3	11.0
47°	1.1	3.4	5.7	8.4	10.3	11.0
48°	0.8	3.4	5.7	8.4	10.3	11.0
49°	0.8	3.4	5.7	8.4	10.3	11.4
50°	0.8	3.4	5.7	8.0	10.3	11.4
51°	0.4	3.4	5.7	8.0	10.3	11.4
52°	0.4	3.4	5.3	8.0	10.7	11.4
53°	0.4	3.0	5.3	8.0	10.7	11.4
54°	0.4	3.0	5.3	8.0	10.7	11.0
55°	0.4	3.0	5.3	8.0	10.3	11.0
56°	0.4	2.7	5.3	8.0	10.3	11.0
57°	0.4	2.7	4.9	7.6	10.3	10.7
58°	0.4	2.7	4.9	7.6	10.3	10.7
59°	0.4	2.7	4.9	7.6	9.9	10.7
60°	0.8	2.3	4.6	7.2	9.9	10.7
62.5°	0.8	2.3	4.6	7.2	9.5	10.3
65°	0.8	2.3	4.2	6.9	9.5	10.3



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CANDELA DISTRIBUTION (continued):

	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	0.8	1.9	3.8	6.5	9.1	9.9
70°	0.8	2.3	3.8	6.1	8.8	9.5
72.5°	1.1	1.9	3.4	5.7	8.4	9.1
75°	1.1	1.9	3.4	5.3	8.0	8.4
77.5°	1.5	1.9	3.0	4.6	7.2	7.6
80°	1.5	1.9	2.7	3.8	6.1	6.5
82.5°	1.5	1.9	1.9	3.0	4.6	4.9
85°	1.1	1.5	1.5	1.9	3.0	3.4
87.5°	1.1	1.5	1.1	0.8	1.5	1.5
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)