

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: P1334468

Luminaire Tested: P3A02R209827DE010 E3A451WMH

Issue Date: 2/13/2026

Test Information

Test Method: LM-79-2019
Report Number: P1334468
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: P3A02R209827DE010 E3A451WMH
Description: 3in Adjustable LED luminaire with, R20 optic, 2700K CCT AND, 98CRI , E3A451WMH TRIM
Light Source: -
Ballast/Driver: -

Summary

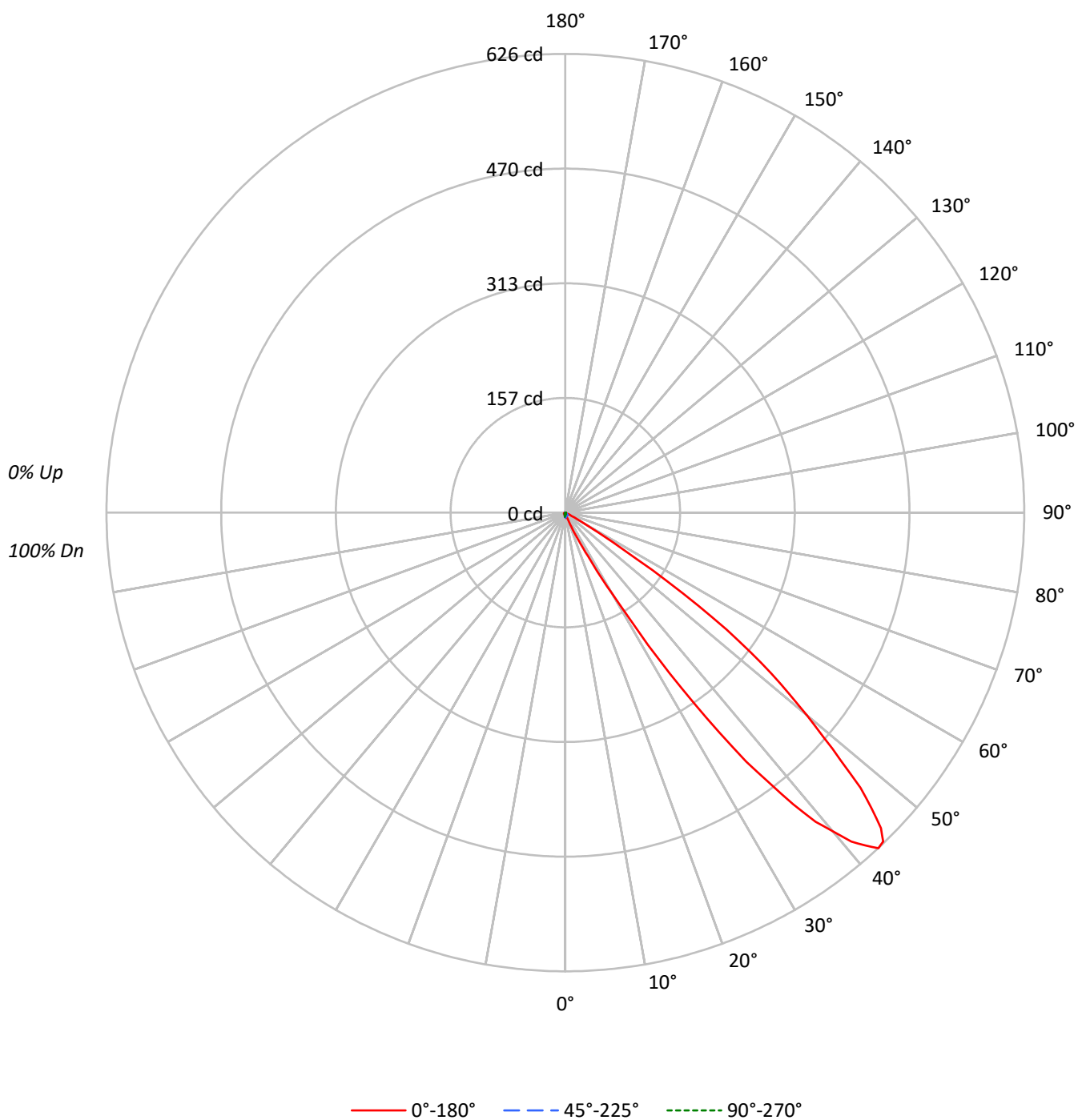
Lumens per Lamp: N/A
Luminaire Lumens: 87.0 lumens
Efficiency: N/A
Efficacy: 24.2 lumens/watt
Spacing Criteria (0/90/45): 3.39 / 0.51 / 1.13
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

Input Watts (W): 3.6
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

TEST NUMBER: P1334468

CATALOG NUMBER: P3A02R209827DE010 E3A451WMH

Luminous Intensity Polar Plot



TEST NUMBER: P1334468

CATALOG NUMBER: P3A02R209827DE010 E3A451WMH

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	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°	1338	1338	1338	1338	1338
5°	1541	1431	1233	1079	1035
10°	1536	1314	980	846	824
15°	1339	999	726	658	704
20°	1984	840	537	583	630
25°	8541	871	411	508	605
30°	32309	1063	354	506	608
35°	97975	1258	321	509	642
40°	162447	1260	286	544	687
45°	188826	868	248	558	744
50°	146554	478	239	580	853
55°	84833	306	268	650	918
60°	14341	88	219	702	1009
65°	1090	0	259	778	1141
70°	128	0	321	833	1282
75°	169	85	339	932	1525
80°	126	126	505	1010	1768
85°	252	252	755	1006	1761

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 188826 cd/sqm

TEST NUMBER: P1334468

CATALOG NUMBER: P3A02R209827DE010 E3A451WMH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.5	0.6
10°-20°	1.1	1.3
20°-30°	3.5	4.0
30°-40°	22.2	25.5
40°-50°	40.6	46.7
50°-60°	16.7	19.2
60°-70°	1.4	1.6
70°-80°	0.7	0.8
80°-90°	0.3	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°	5.1	5.8
0°-40°	27.3	31.3
0°-60°	84.6	97.2
0°-90°	87.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	87.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6	6	6	6	6	
5°	7	6	6	5	5	1
15°	6	4	3	3	3	2
25°	35	4	2	2	2	23
35°	366	5	1	2	2	232
45°	609	3	1	2	2	437
55°	222	1	1	2	2	194
65°	2	0	0	2	2	7
75°	0	0	0	1	2	0
85°	0	0	0	0	1	0
90°	0	0	0	0	0	

TEST NUMBER: P1334468

CATALOG NUMBER: P3A02R209827DE010 E3A451WMH

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	45°
0°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
2.5°	6.6	6.6	6.6	6.5	6.5	6.6	6.5	6.5	6.5	6.5	6.5
5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.9	6.9	6.5
7.5°	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.0	6.9	6.4
10°	6.9	6.9	6.9	6.8	6.8	6.8	6.7	6.7	6.6	6.5	5.9
12.5°	6.2	6.2	6.2	6.2	6.1	6.1	6.1	6.1	6.0	5.9	5.2
15°	5.9	5.9	5.9	5.8	5.8	5.7	5.6	5.6	5.5	5.3	4.4
17.5°	6.4	6.4	6.3	6.3	6.1	6.0	5.9	5.6	5.5	5.2	3.9
20°	8.5	8.6	8.3	8.0	7.8	7.4	7.1	6.7	6.4	6.0	3.6
22.5°	17.2	16.8	16.3	15.4	14.3	13.4	11.8	10.5	9.6	8.3	3.5
25°	35.3	35.0	33.4	32.1	28.9	26.3	22.8	19.9	17.0	14.1	3.6
27.5°	67.1	64.9	64.5	58.5	54.0	47.4	40.6	34.9	29.7	23.9	3.8
30°	127.6	125.1	116.2	107.2	94.8	80.9	67.5	55.1	44.7	35.3	4.2
31°	162.0	164.4	154.0	135.9	117.7	99.7	81.5	65.7	52.3	40.6	4.3
32°	212.9	202.2	191.2	172.6	146.1	123.2	100.3	77.6	59.9	46.4	4.5
33°	261.1	254.8	237.9	214.8	183.0	150.8	121.2	91.6	69.3	53.3	4.6
34°	312.4	305.5	291.8	258.6	223.7	181.6	142.0	107.7	80.4	60.1	4.7
35°	366.0	363.0	336.7	307.9	265.0	214.2	167.1	125.3	91.2	66.3	4.7
36°	419.8	410.4	389.7	347.7	302.9	244.4	193.4	141.8	102.3	73.7	4.7
37°	460.4	458.3	431.0	390.0	337.3	276.6	216.2	160.0	113.4	80.0	4.7
38°	505.1	496.7	469.0	427.3	369.7	306.1	240.0	175.9	123.9	85.7	4.7
39°	542.8	530.3	502.3	461.1	398.0	328.5	258.9	191.2	133.3	90.4	4.6
40°	567.5	558.8	529.6	483.3	423.7	349.7	278.0	203.9	140.2	94.0	4.4
41°	594.7	580.3	551.5	504.9	442.3	368.3	290.0	212.2	145.6	96.4	4.3
42°	611.0	599.2	565.0	519.3	455.6	379.0	299.8	218.6	148.9	97.6	3.9
43°	626.2	610.2	576.8	527.8	464.5	386.5	304.3	221.6	149.6	97.6	3.5
44°	624.2	608.9	574.4	528.9	466.4	388.7	306.2	221.7	148.5	96.4	3.1
45°	608.9	593.7	562.6	518.9	459.4	384.4	302.4	218.4	145.3	94.3	2.8
46°	580.8	565.8	541.9	502.2	446.3	374.5	293.7	211.3	140.0	90.8	2.5
47°	550.3	535.7	511.2	475.4	424.0	357.0	281.0	201.3	132.5	85.8	2.2
48°	506.1	496.9	472.4	441.7	393.0	329.7	258.8	185.0	122.6	79.4	1.9
49°	467.0	457.4	435.9	402.9	352.6	297.8	232.2	165.2	109.6	72.2	1.6
50°	429.6	421.2	401.4	364.2	316.2	259.3	196.3	140.3	93.2	63.3	1.4
51°	393.1	386.8	366.5	332.4	283.6	229.7	170.1	116.8	77.0	52.5	1.3
52°	356.4	355.7	333.7	299.1	252.0	200.1	144.6	98.6	65.3	44.1	1.2
53°	316.9	312.2	292.9	261.9	216.7	169.4	122.6	83.1	56.3	37.5	1.1
54°	271.9	266.6	246.0	218.0	177.0	138.7	98.8	67.2	46.8	31.7	1.0
55°	221.9	212.8	197.9	169.1	138.3	105.9	76.3	53.2	37.4	26.4	0.8
56°	168.3	159.3	150.8	129.7	101.5	79.0	56.8	40.8	29.3	20.8	0.7
57°	117.1	116.6	102.8	86.5	67.9	53.8	38.9	28.8	20.7	16.2	0.6
58°	76.0	73.4	64.6	55.2	44.4	33.6	25.0	19.5	14.1	11.0	0.5
59°	53.2	48.2	43.4	36.8	28.0	21.2	16.1	12.5	9.7	7.7	0.3
60°	32.7	31.6	28.5	22.4	18.2	15.0	12.0	9.2	7.1	5.5	0.2
62.5°	9.3	9.5	8.6	7.6	6.5	5.6	5.1	4.3	3.6	2.9	0.0
65°	2.1	2.0	2.2	2.0	1.9	1.9	1.6	1.5	1.3	1.2	0.0



TEST NUMBER: P1334468

CATALOG NUMBER: P3A02R209827DE010 E3A451WMH

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	45°
67.5°	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.0
70°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
72.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
75°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
77.5°	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1
80°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
82.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
85°	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1334468

CATALOG NUMBER: P3A02R209827DE010 E3A451WMH

CANDELA DISTRIBUTION (continued):

	67.5°	90°	112.5°	135°	157.5°	180°
0°	6.1	6.1	6.1	6.1	6.1	6.1
2.5°	6.3	6.0	5.7	5.5	5.4	5.4
5°	6.1	5.6	5.2	4.9	4.7	4.7
7.5°	5.6	5.1	4.6	4.3	4.3	4.3
10°	5.1	4.4	3.9	3.8	3.8	3.7
12.5°	4.4	3.8	3.4	3.4	3.4	3.4
15°	3.7	3.2	2.9	2.9	3.0	3.1
17.5°	3.1	2.6	2.5	2.7	2.9	2.9
20°	2.6	2.3	2.3	2.5	2.6	2.7
22.5°	2.2	2.0	2.0	2.3	2.5	2.6
25°	2.0	1.7	1.9	2.1	2.4	2.5
27.5°	1.6	1.6	1.7	2.0	2.4	2.5
30°	1.4	1.4	1.6	2.0	2.3	2.4
31°	1.3	1.3	1.6	2.0	2.3	2.4
32°	1.2	1.3	1.6	2.0	2.3	2.4
33°	1.1	1.2	1.6	1.9	2.3	2.4
34°	1.1	1.2	1.6	1.9	2.3	2.4
35°	1.0	1.2	1.6	1.9	2.3	2.4
36°	0.9	1.1	1.5	1.9	2.3	2.4
37°	0.8	1.1	1.5	1.9	2.3	2.4
38°	0.7	1.1	1.5	1.9	2.3	2.4
39°	0.7	1.1	1.4	1.9	2.2	2.4
40°	0.7	1.0	1.4	1.9	2.2	2.4
41°	0.6	1.0	1.4	1.8	2.2	2.4
42°	0.5	0.9	1.3	1.8	2.2	2.4
43°	0.4	0.9	1.3	1.8	2.2	2.4
44°	0.4	0.8	1.3	1.8	2.2	2.4
45°	0.3	0.8	1.3	1.8	2.2	2.4
46°	0.2	0.8	1.3	1.8	2.2	2.4
47°	0.2	0.7	1.2	1.8	2.2	2.4
48°	0.2	0.7	1.2	1.8	2.2	2.4
49°	0.2	0.7	1.2	1.8	2.2	2.5
50°	0.2	0.7	1.2	1.7	2.2	2.5
51°	0.1	0.7	1.2	1.7	2.2	2.5
52°	0.1	0.7	1.1	1.7	2.3	2.5
53°	0.1	0.7	1.1	1.7	2.3	2.5
54°	0.1	0.7	1.1	1.7	2.3	2.4
55°	0.1	0.7	1.1	1.7	2.2	2.4
56°	0.1	0.6	1.1	1.7	2.2	2.4
57°	0.1	0.6	1.1	1.6	2.2	2.3
58°	0.1	0.6	1.1	1.6	2.2	2.3
59°	0.1	0.6	1.1	1.6	2.1	2.3
60°	0.2	0.5	1.0	1.6	2.1	2.3
62.5°	0.2	0.5	1.0	1.6	2.0	2.2
65°	0.2	0.5	0.9	1.5	2.0	2.2



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CANDELA DISTRIBUTION (continued):

	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	0.2	0.4	0.8	1.4	2.0	2.1
70°	0.2	0.5	0.8	1.3	1.9	2.0
72.5°	0.2	0.4	0.7	1.2	1.8	2.0
75°	0.2	0.4	0.7	1.1	1.7	1.8
77.5°	0.3	0.4	0.7	1.0	1.6	1.6
80°	0.3	0.4	0.6	0.8	1.3	1.4
82.5°	0.3	0.4	0.4	0.7	1.0	1.1
85°	0.2	0.3	0.3	0.4	0.7	0.7
87.5°	0.2	0.3	0.2	0.2	0.3	0.3
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)