

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: FAIL-SAFE

Report Number: P560956

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560956
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1LO-35-UNV-80-96-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2057.0 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

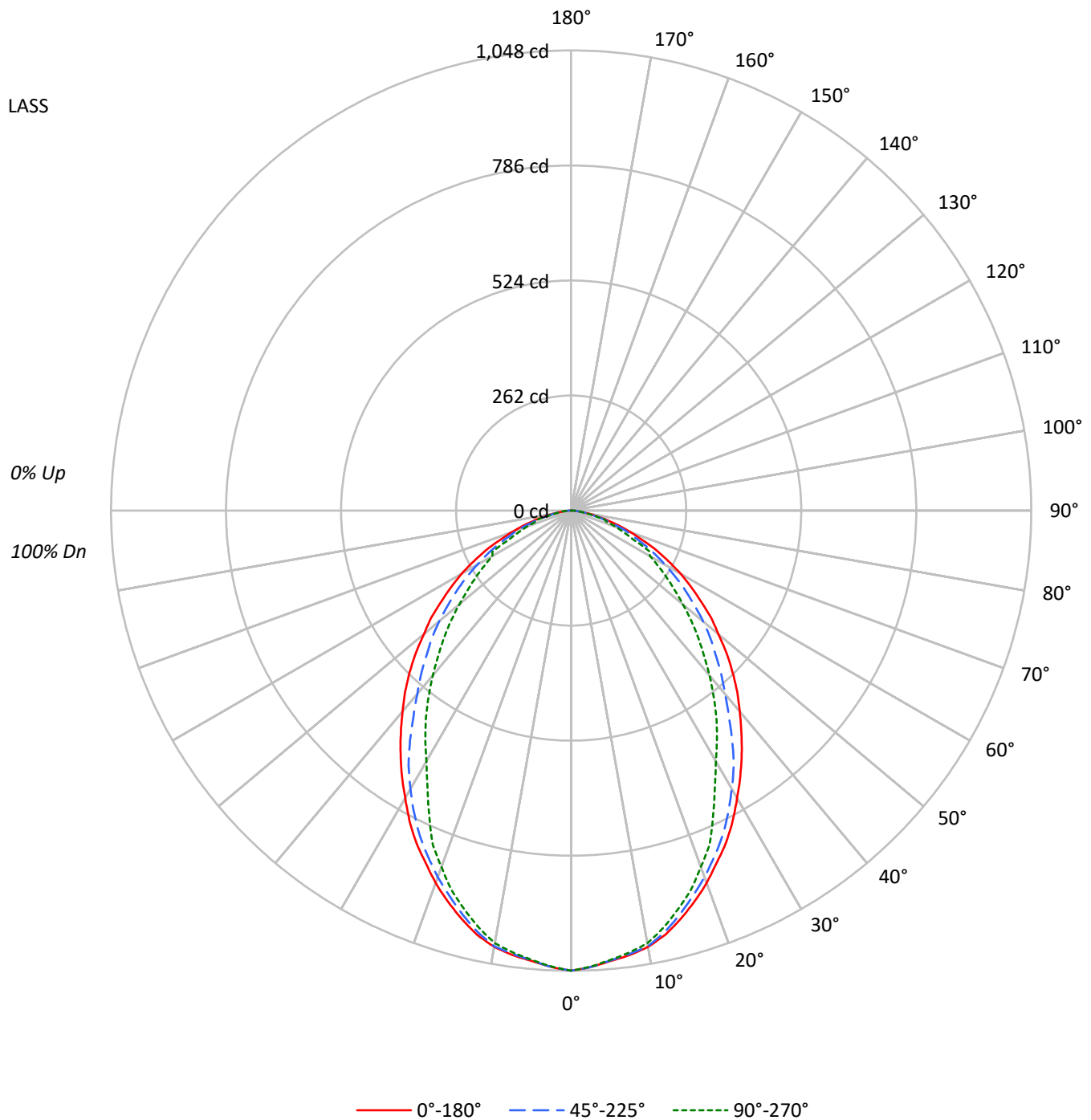
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2820	2820	2820
5°	2781	2778	2775
10°	2757	2754	2734
15°	2683	2656	2619
20°	2584	2543	2473
25°	2478	2424	2273
30°	2349	2273	2048
35°	2224	2101	1894
40°	2098	1915	1723
45°	1978	1770	1558
50°	1831	1643	1389
55°	1694	1489	1245
60°	1552	1330	1115
65°	1365	1165	988
70°	1124	1020	839
75°	894	781	818
80°	601	563	525
85°	374	448	525

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1978 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.5	4.7
10°-20°	267.7	13.0
20°-30°	370.6	18.0
30°-40°	395.2	19.2
40°-50°	360.5	17.5
50°-60°	282.4	13.7
60°-70°	184.1	8.9
70°-80°	81.5	4.0
80°-90°	17.5	0.9
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°	735.8	35.8
0°-40°	1131.0	55.0
0°-60°	1773.9	86.2
0°-90°	2057.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2057.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1048	1048	1048	1048	1048	
5°	1030	1028	1028	1027	1027	98
15°	963	963	953	944	940	271
25°	835	830	816	787	766	383
35°	677	672	640	591	577	423
45°	520	509	465	426	409	400
55°	361	350	317	280	265	324
65°	214	202	183	186	155	211
75°	86	80	75	72	79	92
85°	12	13	14	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1047.8	1047.8	1047.8	1047.8	1047.8
2.5°	1040.5	1040.5	1040.5	1039.3	1039.3
5°	1029.6	1028.4	1028.4	1027.2	1027.2
7.5°	1021.2	1019.9	1018.7	1017.5	1015.1
10°	1009.0	1009.0	1007.8	1001.8	1000.6
12.5°	989.7	988.5	983.6	975.1	972.7
15°	963.0	963.0	953.3	943.6	940.0
17.5°	933.9	932.7	920.6	910.9	906.1
20°	902.4	900.0	887.9	872.2	863.7
22.5°	867.3	867.3	852.8	832.2	823.7
25°	834.6	829.8	816.4	787.4	765.6
27.5°	797.1	789.8	775.3	734.1	708.6
30°	755.9	752.2	731.6	678.3	659.0
32.5°	717.1	711.1	689.3	633.5	617.8
35°	677.1	672.3	639.6	591.1	576.6
37.5°	637.2	631.1	589.9	551.2	533.0
40°	597.2	589.9	545.1	510.0	490.6
42.5°	559.6	549.9	506.3	468.8	447.0
45°	519.7	508.8	465.2	426.4	409.4
47.5°	479.7	470.0	430.0	390.1	370.7
50°	437.3	428.8	392.5	352.5	331.9
52.5°	402.2	388.8	353.7	313.7	296.8
55°	361.0	350.1	317.4	279.8	265.3
57.5°	323.4	312.5	282.2	247.1	235.0
60°	288.3	272.6	247.1	216.8	207.1
62.5°	249.5	237.4	215.6	190.2	202.3
65°	214.4	202.3	182.9	186.5	155.1
67.5°	175.6	169.6	152.6	135.7	130.8
70°	142.9	135.7	129.6	111.4	106.6
72.5°	113.9	106.6	98.1	88.4	84.8
75°	86.0	79.9	75.1	71.5	78.7
77.5°	59.4	56.9	53.3	49.7	48.5
80°	38.8	37.6	36.3	35.1	33.9
82.5°	23.0	23.0	23.0	23.0	23.0
85°	12.1	13.3	14.5	15.7	17.0
87.5°	7.3	7.3	8.5	9.7	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)