

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: P563454

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-80-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563454
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-24-4-LD4-3STD-35-UNV-80-97-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 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: 9362.0 lumens
Efficiency: N/A
Efficacy: 93.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

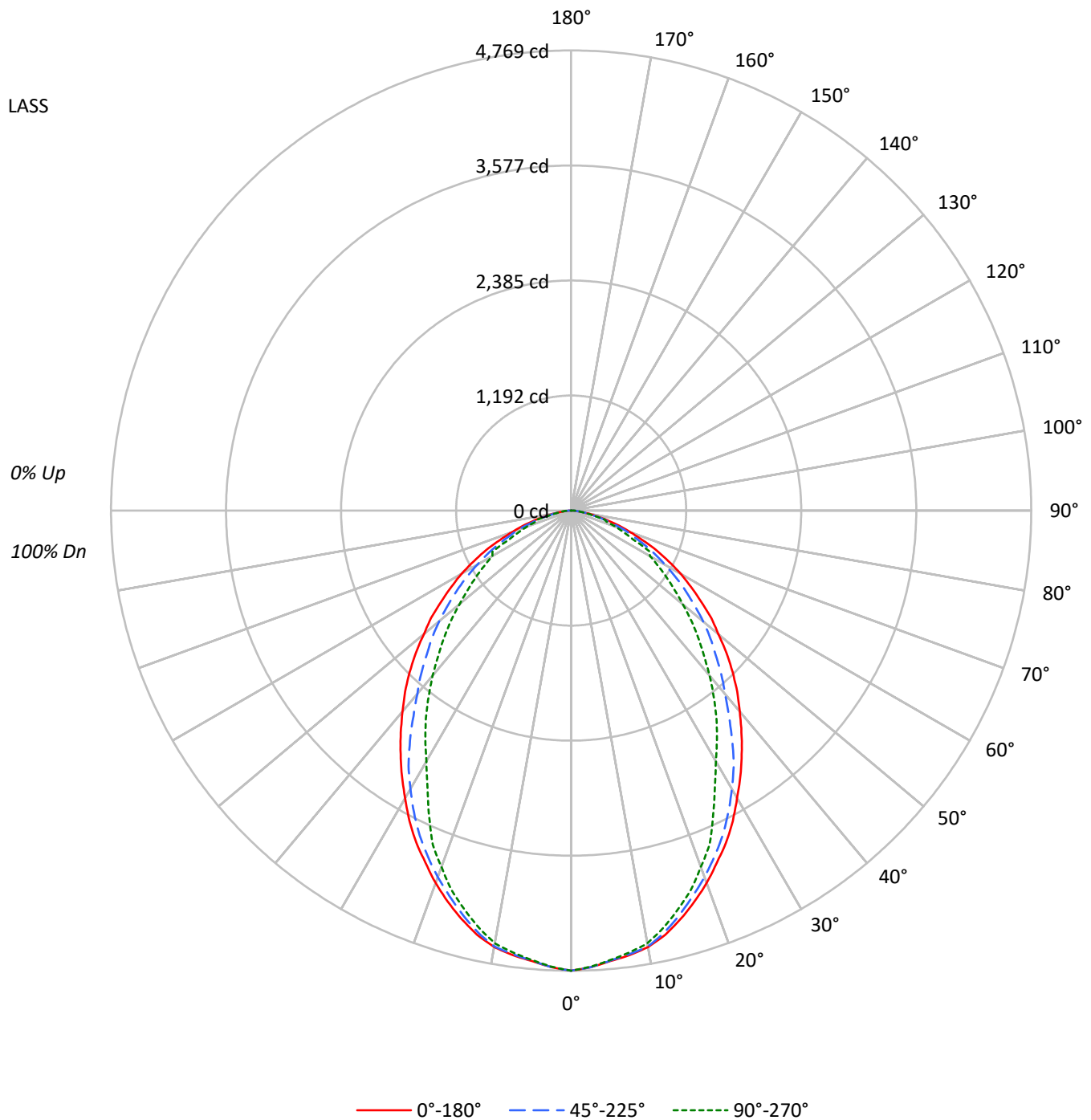
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6417	6417	6417
5°	6329	6322	6314
10°	6274	6267	6222
15°	6105	6044	5959
20°	5881	5786	5628
25°	5639	5517	5173
30°	5345	5173	4660
35°	5062	4781	4311
40°	4774	4357	3922
45°	4500	4028	3546
50°	4166	3739	3162
55°	3854	3388	2832
60°	3531	3027	2537
65°	3107	2650	2247
70°	2559	2321	1909
75°	2035	1777	1863
80°	1367	1282	1196
85°	851	1022	1192

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4500 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	443.9	4.7
10°-20°	1218.3	13.0
20°-30°	1686.7	18.0
30°-40°	1798.5	19.2
40°-50°	1640.7	17.5
50°-60°	1285.4	13.7
60°-70°	837.7	8.9
70°-80°	371.2	4.0
80°-90°	79.7	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°	3348.9	35.8
0°-40°	5147.3	55.0
0°-60°	8073.4	86.2
0°-90°	9362.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9362.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4769	4769	4769	4769	4769	
5°	4686	4681	4681	4675	4675	445
15°	4383	4383	4339	4295	4278	1232
25°	3799	3776	3716	3584	3484	1744
35°	3082	3060	2911	2690	2624	1927
45°	2365	2316	2117	1941	1863	1822
55°	1643	1593	1444	1274	1207	1474
65°	976	921	832	849	706	962
75°	391	364	342	325	358	419
85°	55	61	66	72	77	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4768.9	4768.9	4768.9	4768.9	4768.9
2.5°	4735.8	4735.8	4735.8	4730.3	4730.3
5°	4686.2	4680.7	4680.7	4675.2	4675.2
7.5°	4647.6	4642.1	4636.6	4631.0	4620.0
10°	4592.5	4592.5	4586.9	4559.4	4553.9
12.5°	4504.2	4498.7	4476.7	4438.1	4427.1
15°	4383.0	4383.0	4338.9	4294.7	4278.2
17.5°	4250.6	4245.1	4190.0	4145.9	4123.8
20°	4107.3	4096.3	4041.1	3969.5	3930.9
22.5°	3947.4	3947.4	3881.3	3787.5	3748.9
25°	3798.6	3776.5	3715.9	3583.5	3484.3
27.5°	3627.7	3594.6	3528.4	3341.0	3225.2
30°	3440.2	3423.7	3329.9	3087.4	2999.2
32.5°	3263.8	3236.2	3137.0	2883.4	2811.7
35°	3081.9	3059.8	2910.9	2690.4	2624.3
37.5°	2899.9	2872.4	2684.9	2508.5	2425.8
40°	2718.0	2684.9	2480.9	2321.0	2232.8
42.5°	2547.1	2503.0	2304.5	2133.6	2034.4
45°	2365.1	2315.5	2117.1	1940.6	1863.4
47.5°	2183.2	2139.1	1957.2	1775.2	1687.0
50°	1990.2	1951.7	1786.3	1604.3	1510.6
52.5°	1830.4	1769.7	1609.8	1427.9	1350.7
55°	1642.9	1593.3	1444.4	1273.5	1207.4
57.5°	1472.0	1422.4	1284.6	1124.7	1069.6
60°	1312.1	1240.5	1124.7	986.9	942.7
62.5°	1135.7	1080.6	981.3	865.6	920.7
65°	975.8	920.7	832.5	849.0	705.7
67.5°	799.4	771.8	694.7	617.5	595.4
70°	650.6	617.5	589.9	507.2	485.2
72.5°	518.2	485.2	446.6	402.5	385.9
75°	391.4	363.9	341.8	325.3	358.4
77.5°	270.1	259.1	242.6	226.0	220.5
80°	176.4	170.9	165.4	159.9	154.4
82.5°	104.7	104.7	104.7	104.7	104.7
85°	55.1	60.6	66.2	71.7	77.2
87.5°	33.1	33.1	38.6	44.1	49.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)