

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: P564028

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564028
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-LD4-4STD-35-UNV-80-96-EDD-90
Description: 2X4 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: 12947.0 lumens
Efficiency: N/A
Efficacy: 97.2 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

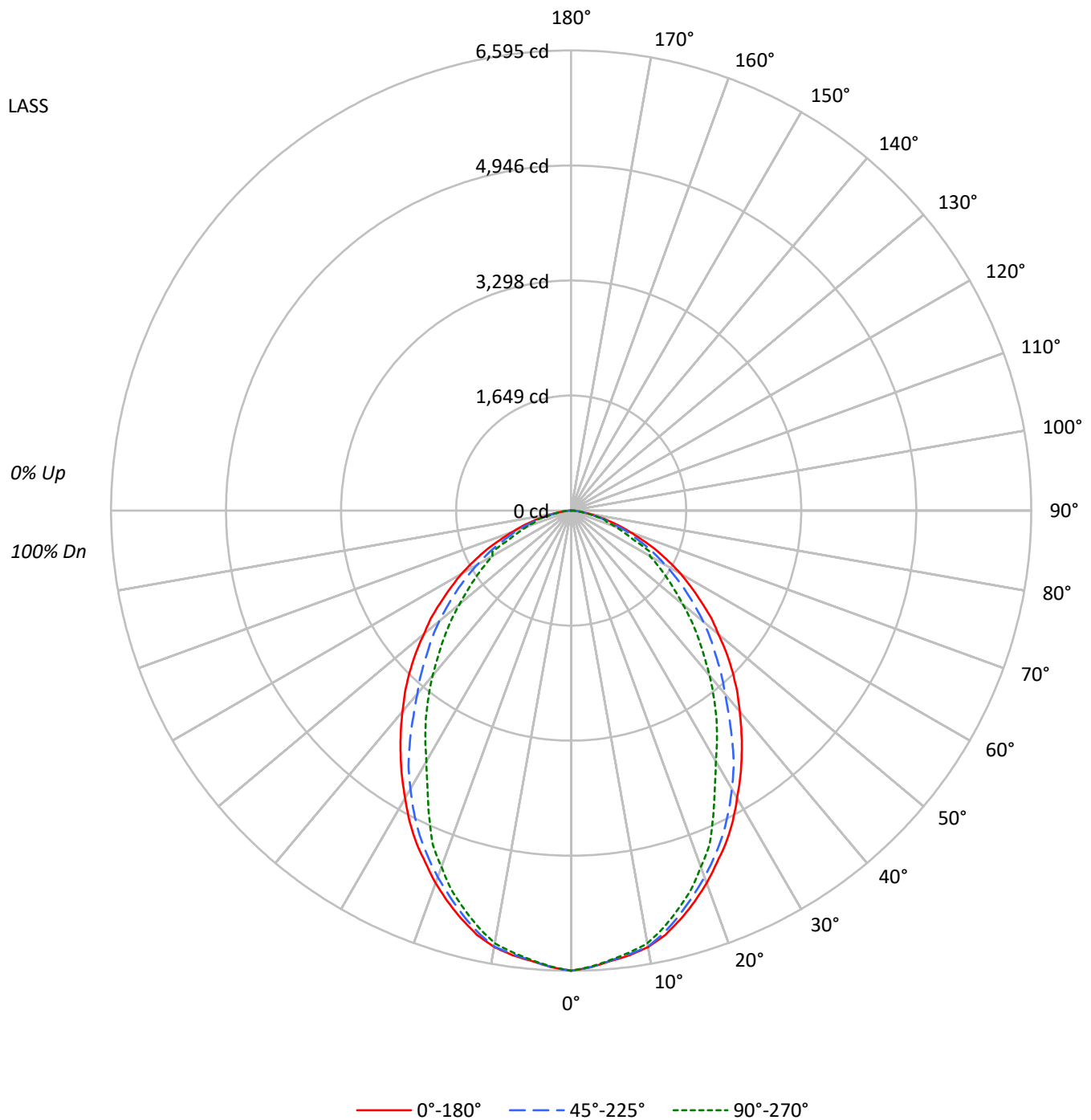
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8874	8874	8874
5°	8753	8743	8732
10°	8677	8667	8604
15°	8443	8358	8241
20°	8133	8002	7784
25°	7799	7629	7154
30°	7392	7155	6444
35°	7001	6612	5961
40°	6602	6026	5423
45°	6224	5571	4904
50°	5761	5171	4373
55°	5330	4686	3917
60°	4883	4186	3508
65°	4296	3665	3107
70°	3539	3209	2639
75°	2814	2457	2576
80°	1891	1772	1654
85°	1176	1413	1647

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6224 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	613.9	4.7
10°-20°	1684.8	13.0
20°-30°	2332.5	18.0
30°-40°	2487.1	19.2
40°-50°	2269.0	17.5
50°-60°	1777.6	13.7
60°-70°	1158.5	8.9
70°-80°	513.3	4.0
80°-90°	110.2	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°	4631.2	35.8
0°-40°	7118.4	55.0
0°-60°	11165.0	86.2
0°-90°	12947.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12947.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6595	6595	6595	6595	6595	
5°	6481	6473	6473	6465	6465	615
15°	6061	6061	6000	5939	5916	1704
25°	5253	5223	5139	4956	4819	2412
35°	4262	4232	4026	3721	3629	2665
45°	3271	3202	2928	2684	2577	2519
55°	2272	2203	1998	1761	1670	2038
65°	1350	1273	1151	1174	976	1330
75°	541	503	473	450	496	580
85°	76	84	92	99	107	106
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6595.0	6595.0	6595.0	6595.0	6595.0
2.5°	6549.3	6549.3	6549.3	6541.7	6541.7
5°	6480.7	6473.0	6473.0	6465.4	6465.4
7.5°	6427.3	6419.7	6412.0	6404.4	6389.2
10°	6351.1	6351.1	6343.4	6305.3	6297.7
12.5°	6229.1	6221.4	6190.9	6137.6	6122.3
15°	6061.3	6061.3	6000.3	5939.3	5916.5
17.5°	5878.3	5870.7	5794.5	5733.5	5703.0
20°	5680.1	5664.9	5588.6	5489.5	5436.1
22.5°	5459.0	5459.0	5367.5	5237.9	5184.5
25°	5253.2	5222.7	5138.8	4955.8	4818.6
27.5°	5016.8	4971.1	4879.6	4620.3	4460.2
30°	4757.6	4734.7	4605.1	4269.6	4147.6
32.5°	4513.6	4475.5	4338.2	3987.5	3888.4
35°	4262.0	4231.5	4025.6	3720.7	3629.2
37.5°	4010.4	3972.3	3713.0	3469.1	3354.7
40°	3758.8	3713.0	3430.9	3209.8	3087.8
42.5°	3522.4	3461.4	3187.0	2950.6	2813.4
45°	3270.8	3202.2	2927.7	2683.8	2577.0
47.5°	3019.2	2958.2	2706.6	2455.0	2333.0
50°	2752.4	2699.0	2470.3	2218.7	2089.1
52.5°	2531.3	2447.4	2226.3	1974.7	1868.0
55°	2272.0	2203.4	1997.6	1761.2	1669.7
57.5°	2035.7	1967.1	1776.5	1555.4	1479.1
60°	1814.6	1715.5	1555.4	1364.8	1303.8
62.5°	1570.6	1494.4	1357.1	1197.0	1273.3
65°	1349.5	1273.3	1151.3	1174.1	975.9
67.5°	1105.5	1067.4	960.7	853.9	823.4
70°	899.7	853.9	815.8	701.4	670.9
72.5°	716.7	670.9	617.6	556.6	533.7
75°	541.3	503.2	472.7	449.8	495.6
77.5°	373.6	358.3	335.5	312.6	305.0
80°	244.0	236.4	228.7	221.1	213.5
82.5°	144.9	144.9	144.9	144.9	144.9
85°	76.2	83.9	91.5	99.1	106.7
87.5°	45.7	45.7	53.4	61.0	68.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)