

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: P563580

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563580
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10370.0 lumens
Efficiency: N/A
Efficacy: 103.8 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

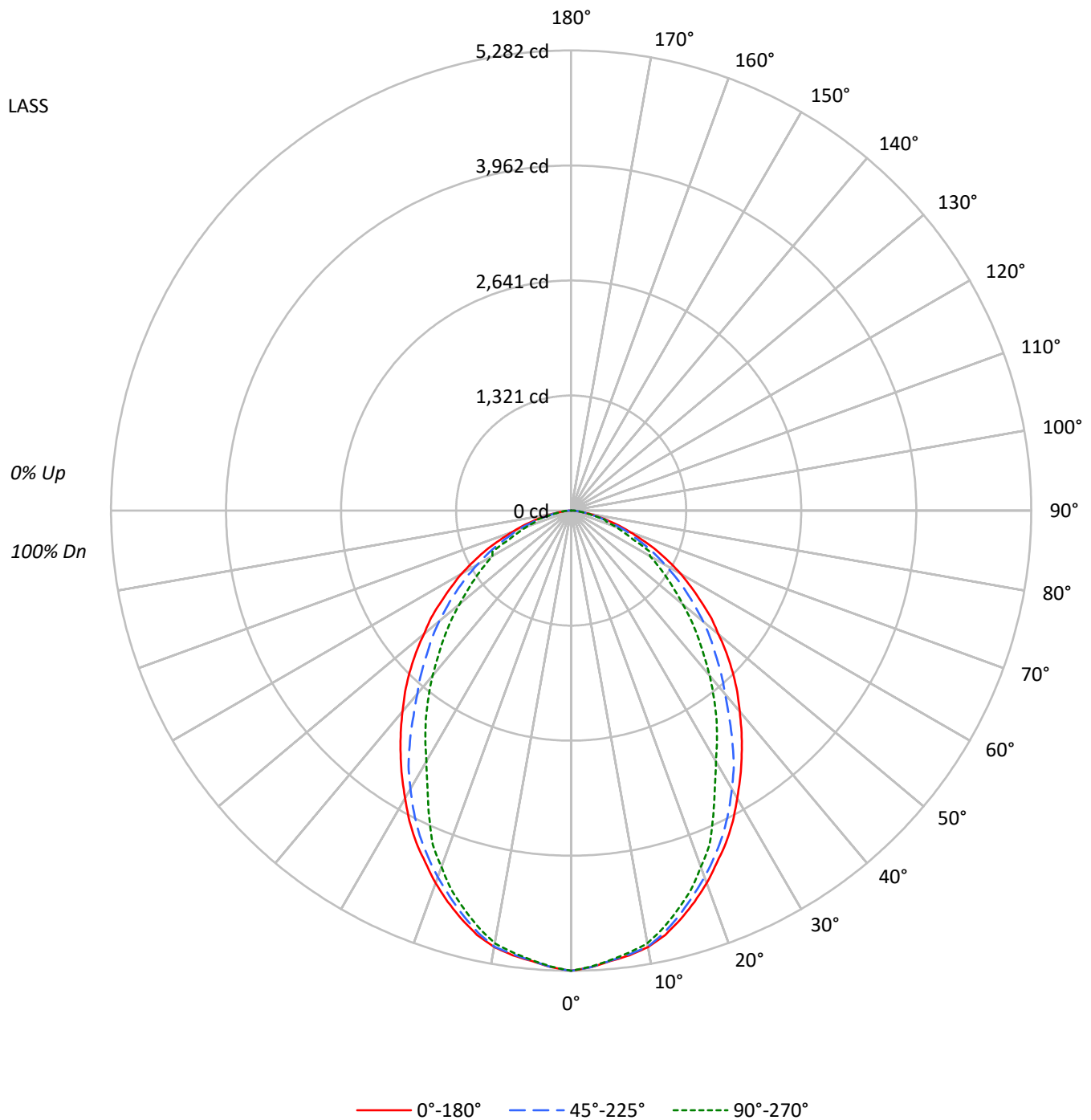
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7107	7107	7107
5°	7011	7002	6994
10°	6950	6942	6892
15°	6763	6695	6601
20°	6514	6409	6234
25°	6247	6111	5730
30°	5920	5731	5161
35°	5607	5296	4775
40°	5288	4827	4344
45°	4985	4462	3928
50°	4614	4142	3502
55°	4269	3753	3137
60°	3911	3352	2810
65°	3441	2936	2489
70°	2835	2570	2114
75°	2254	1968	2063
80°	1514	1420	1325
85°	943	1132	1320

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4985 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	491.7	4.7
10°-20°	1349.5	13.0
20°-30°	1868.3	18.0
30°-40°	1992.1	19.2
40°-50°	1817.4	17.5
50°-60°	1423.8	13.7
60°-70°	927.9	8.9
70°-80°	411.1	4.0
80°-90°	88.3	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°	3709.4	35.8
0°-40°	5701.5	55.0
0°-60°	8942.7	86.2
0°-90°	10370.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10370.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5282	5282	5282	5282	5282	
5°	5191	5185	5185	5178	5178	493
15°	4855	4855	4806	4757	4739	1365
25°	4208	4183	4116	3969	3860	1932
35°	3414	3389	3224	2980	2907	2134
45°	2620	2565	2345	2150	2064	2018
55°	1820	1765	1600	1411	1337	1632
65°	1081	1020	922	940	782	1065
75°	434	403	379	360	397	465
85°	61	67	73	79	86	85
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5282.3	5282.3	5282.3	5282.3	5282.3
2.5°	5245.7	5245.7	5245.7	5239.6	5239.6
5°	5190.7	5184.6	5184.6	5178.5	5178.5
7.5°	5148.0	5141.9	5135.8	5129.7	5117.5
10°	5086.9	5086.9	5080.8	5050.3	5044.2
12.5°	4989.2	4983.1	4958.7	4915.9	4903.7
15°	4854.9	4854.9	4806.0	4757.2	4738.8
17.5°	4708.3	4702.2	4641.1	4592.3	4567.8
20°	4549.5	4537.3	4476.2	4396.9	4354.1
22.5°	4372.4	4372.4	4299.2	4195.3	4152.6
25°	4207.6	4183.1	4116.0	3969.4	3859.5
27.5°	4018.2	3981.6	3908.3	3700.7	3572.4
30°	3810.6	3792.3	3688.5	3419.8	3322.1
32.5°	3615.2	3584.7	3474.7	3193.8	3114.4
35°	3413.7	3389.2	3224.4	2980.1	2906.8
37.5°	3212.2	3181.6	2974.0	2778.6	2687.0
40°	3010.6	2974.0	2748.0	2570.9	2473.2
42.5°	2821.3	2772.5	2552.6	2363.3	2253.4
45°	2619.8	2564.8	2345.0	2149.6	2064.1
47.5°	2418.3	2369.4	2167.9	1966.4	1868.7
50°	2204.5	2161.8	1978.6	1777.1	1673.2
52.5°	2027.4	1960.3	1783.2	1581.6	1496.2
55°	1819.8	1764.9	1600.0	1410.7	1337.4
57.5°	1630.5	1575.5	1422.9	1245.8	1184.7
60°	1453.4	1374.0	1245.8	1093.1	1044.3
62.5°	1258.0	1196.9	1087.0	958.8	1019.8
65°	1080.9	1019.8	922.1	940.4	781.7
67.5°	885.5	854.9	769.5	684.0	659.5
70°	720.6	684.0	653.4	561.8	537.4
72.5°	574.0	537.4	494.6	445.8	427.5
75°	433.6	403.0	378.6	360.3	396.9
77.5°	299.2	287.0	268.7	250.4	244.3
80°	195.4	189.3	183.2	177.1	171.0
82.5°	116.0	116.0	116.0	116.0	116.0
85°	61.1	67.2	73.3	79.4	85.5
87.5°	36.6	36.6	42.7	48.9	55.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)