

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: P563444

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-80-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563444
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-80-86-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9493.0 lumens
Efficiency: N/A
Efficacy: 95.0 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

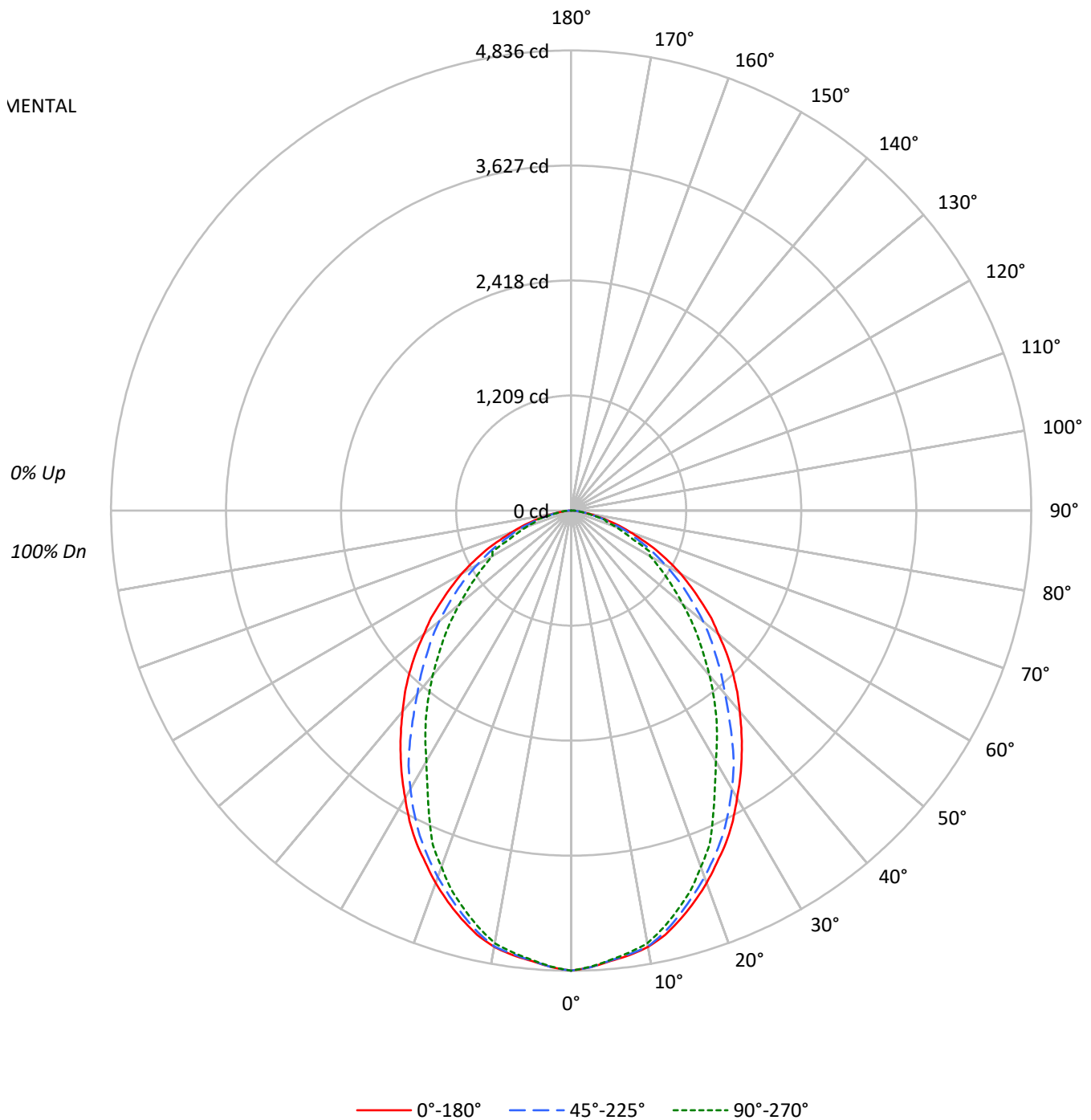
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6506	6506	6506
5°	6418	6410	6403
10°	6362	6355	6309
15°	6191	6128	6043
20°	5963	5867	5707
25°	5718	5594	5245
30°	5420	5246	4725
35°	5133	4848	4371
40°	4841	4418	3977
45°	4563	4085	3595
50°	4224	3791	3206
55°	3908	3436	2872
60°	3580	3069	2572
65°	3150	2687	2278
70°	2595	2353	1935
75°	2063	1802	1889
80°	1386	1299	1213
85°	863	1036	1209

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4563 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	450.1	4.7
10°-20°	1235.3	13.0
20°-30°	1710.3	18.0
30°-40°	1823.6	19.2
40°-50°	1663.7	17.5
50°-60°	1303.4	13.7
60°-70°	849.5	8.9
70°-80°	376.3	4.0
80°-90°	80.8	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°	3395.7	35.8
0°-40°	5219.4	55.0
0°-60°	8186.4	86.2
0°-90°	9493.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9493.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4836	4836	4836	4836	4836	
5°	4752	4746	4746	4741	4741	451
15°	4444	4444	4400	4355	4338	1249
25°	3852	3829	3768	3634	3533	1768
35°	3125	3103	2952	2728	2661	1954
45°	2398	2348	2147	1968	1890	1847
55°	1666	1616	1465	1291	1224	1494
65°	990	934	844	861	716	975
75°	397	369	347	330	363	425
85°	56	62	67	73	78	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4835.6	4835.6	4835.6	4835.6	4835.6
2.5°	4802.1	4802.1	4802.1	4796.5	4796.5
5°	4751.8	4746.2	4746.2	4740.6	4740.6
7.5°	4712.6	4707.0	4701.4	4695.8	4684.7
10°	4656.7	4656.7	4651.1	4623.2	4617.6
12.5°	4567.3	4561.7	4539.3	4500.2	4489.0
15°	4444.3	4444.3	4399.6	4354.8	4338.1
17.5°	4310.1	4304.5	4248.6	4203.9	4181.5
20°	4164.8	4153.6	4097.7	4025.0	3985.9
22.5°	4002.7	4002.7	3935.6	3840.5	3801.4
25°	3851.7	3829.4	3767.9	3633.7	3533.1
27.5°	3678.4	3644.9	3577.8	3387.7	3270.3
30°	3488.3	3471.6	3376.5	3130.6	3041.1
32.5°	3309.5	3281.5	3180.9	2923.7	2851.1
35°	3125.0	3102.6	2951.7	2728.1	2661.0
37.5°	2940.5	2912.5	2722.5	2543.6	2459.7
40°	2756.0	2722.5	2515.6	2353.5	2264.1
42.5°	2582.7	2538.0	2336.7	2163.4	2062.8
45°	2398.2	2347.9	2146.7	1967.8	1889.5
47.5°	2213.8	2169.0	1984.6	1800.1	1710.6
50°	2018.1	1979.0	1811.3	1626.8	1531.7
52.5°	1856.0	1794.5	1632.4	1447.9	1369.6
55°	1665.9	1615.6	1464.7	1291.4	1224.3
57.5°	1492.6	1442.3	1302.5	1140.4	1084.5
60°	1330.5	1257.8	1140.4	1000.7	955.9
62.5°	1151.6	1095.7	995.1	877.7	933.6
65°	989.5	933.6	844.1	860.9	715.6
67.5°	810.6	782.6	704.4	626.1	603.8
70°	659.7	626.1	598.2	514.3	491.9
72.5°	525.5	491.9	452.8	408.1	391.3
75°	396.9	369.0	346.6	329.8	363.4
77.5°	273.9	262.7	246.0	229.2	223.6
80°	178.9	173.3	167.7	162.1	156.5
82.5°	106.2	106.2	106.2	106.2	106.2
85°	55.9	61.5	67.1	72.7	78.3
87.5°	33.5	33.5	39.1	44.7	50.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)