

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: P561176

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561176
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-LD4-1STD-35-UNV-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2182.0 lumens
Efficiency: N/A
Efficacy: 65.5 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

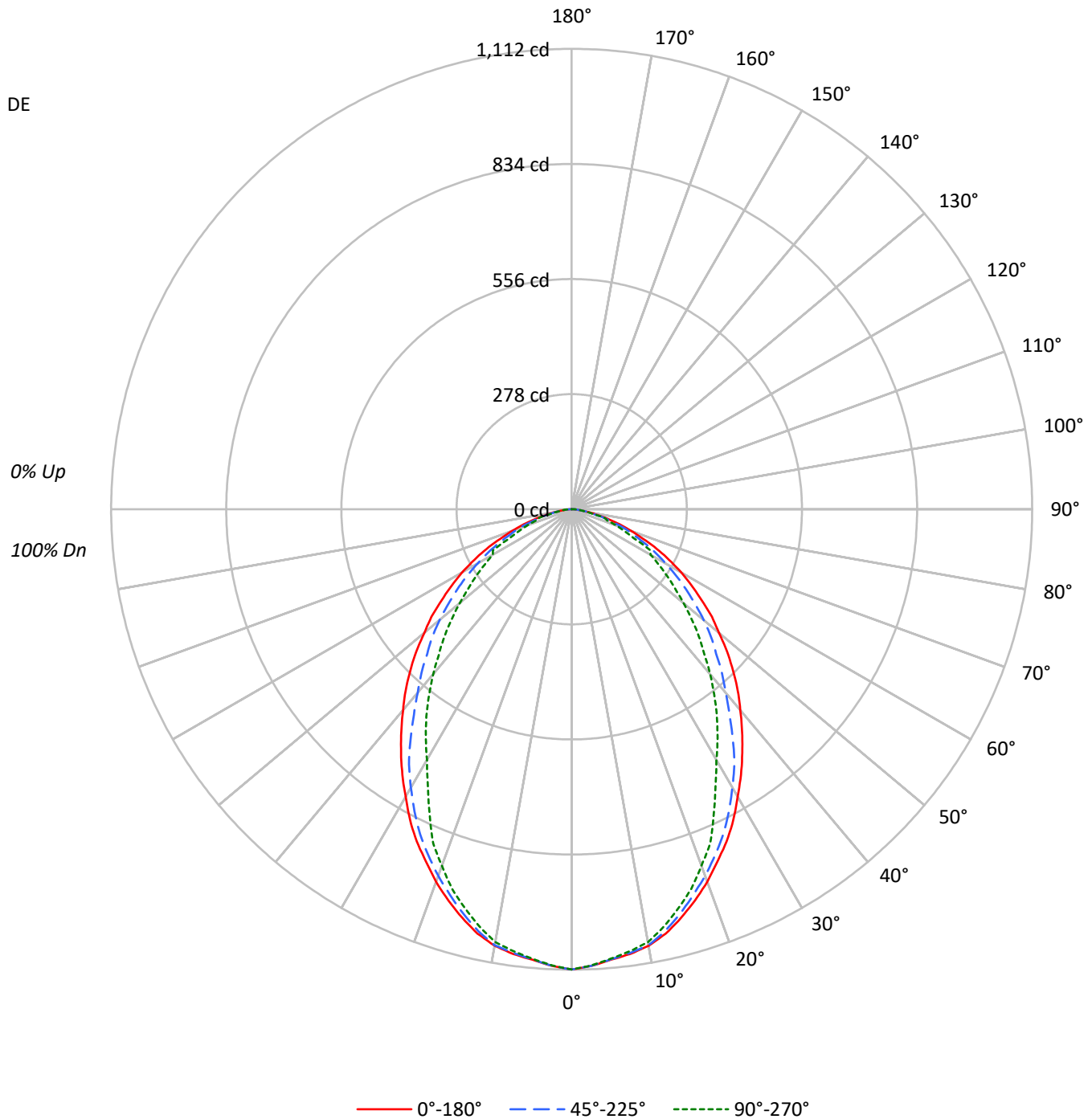
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	2991	2991	2991
5°	2950	2947	2943
10°	2925	2921	2900
15°	2846	2817	2778
20°	2741	2697	2624
25°	2629	2572	2411
30°	2491	2412	2172
35°	2360	2229	2009
40°	2225	2031	1828
45°	2098	1878	1653
50°	1942	1743	1474
55°	1796	1580	1320
60°	1646	1411	1182
65°	1448	1235	1047
70°	1193	1082	890
75°	948	829	868
80°	637	597	558
85°	395	475	556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2098 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.5	4.7
10°-20°	284.0	13.0
20°-30°	393.1	18.0
30°-40°	419.2	19.2
40°-50°	382.4	17.5
50°-60°	299.6	13.7
60°-70°	195.2	8.9
70°-80°	86.5	4.0
80°-90°	18.6	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°	780.5	35.8
0°-40°	1199.7	55.0
0°-60°	1881.7	86.2
0°-90°	2182.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2182.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1112	1112	1112	1112	1112	
5°	1092	1091	1091	1090	1090	104
15°	1022	1022	1011	1001	997	287
25°	885	880	866	835	812	406
35°	718	713	678	627	612	449
45°	551	540	493	452	434	425
55°	383	371	337	297	281	343
65°	227	215	194	198	164	224
75°	91	85	80	76	84	98
85°	13	14	15	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1111.5	1111.5	1111.5	1111.5	1111.5
2.5°	1103.8	1103.8	1103.8	1102.5	1102.5
5°	1092.2	1090.9	1090.9	1089.6	1089.6
7.5°	1083.2	1081.9	1080.6	1079.4	1076.8
10°	1070.4	1070.4	1069.1	1062.7	1061.4
12.5°	1049.8	1048.5	1043.4	1034.4	1031.8
15°	1021.5	1021.5	1011.3	1001.0	997.1
17.5°	990.7	989.4	976.6	966.3	961.1
20°	957.3	954.7	941.9	925.2	916.2
22.5°	920.0	920.0	904.6	882.8	873.8
25°	885.3	880.2	866.1	835.2	812.1
27.5°	845.5	837.8	822.4	778.7	751.7
30°	801.8	798.0	776.1	719.6	699.0
32.5°	760.7	754.3	731.1	672.0	655.3
35°	718.3	713.1	678.5	627.1	611.6
37.5°	675.9	669.5	625.8	584.7	565.4
40°	633.5	625.8	578.2	541.0	520.4
42.5°	593.6	583.4	537.1	497.3	474.1
45°	551.2	539.7	493.4	452.3	434.3
47.5°	508.8	498.6	456.2	413.8	393.2
50°	463.9	454.9	416.3	373.9	352.1
52.5°	426.6	412.5	375.2	332.8	314.8
55°	382.9	371.4	336.7	296.8	281.4
57.5°	343.1	331.5	299.4	262.1	249.3
60°	305.8	289.1	262.1	230.0	219.7
62.5°	264.7	251.9	228.7	201.7	214.6
65°	227.4	214.6	194.0	197.9	164.5
67.5°	186.3	179.9	161.9	143.9	138.8
70°	151.6	143.9	137.5	118.2	113.1
72.5°	120.8	113.1	104.1	93.8	89.9
75°	91.2	84.8	79.7	75.8	83.5
77.5°	63.0	60.4	56.5	52.7	51.4
80°	41.1	39.8	38.5	37.3	36.0
82.5°	24.4	24.4	24.4	24.4	24.4
85°	12.8	14.1	15.4	16.7	18.0
87.5°	7.7	7.7	9.0	10.3	11.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)