

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: P561142

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-80-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561142
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-80-87-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2606.0 lumens
Efficiency: N/A
Efficacy: 78.3 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

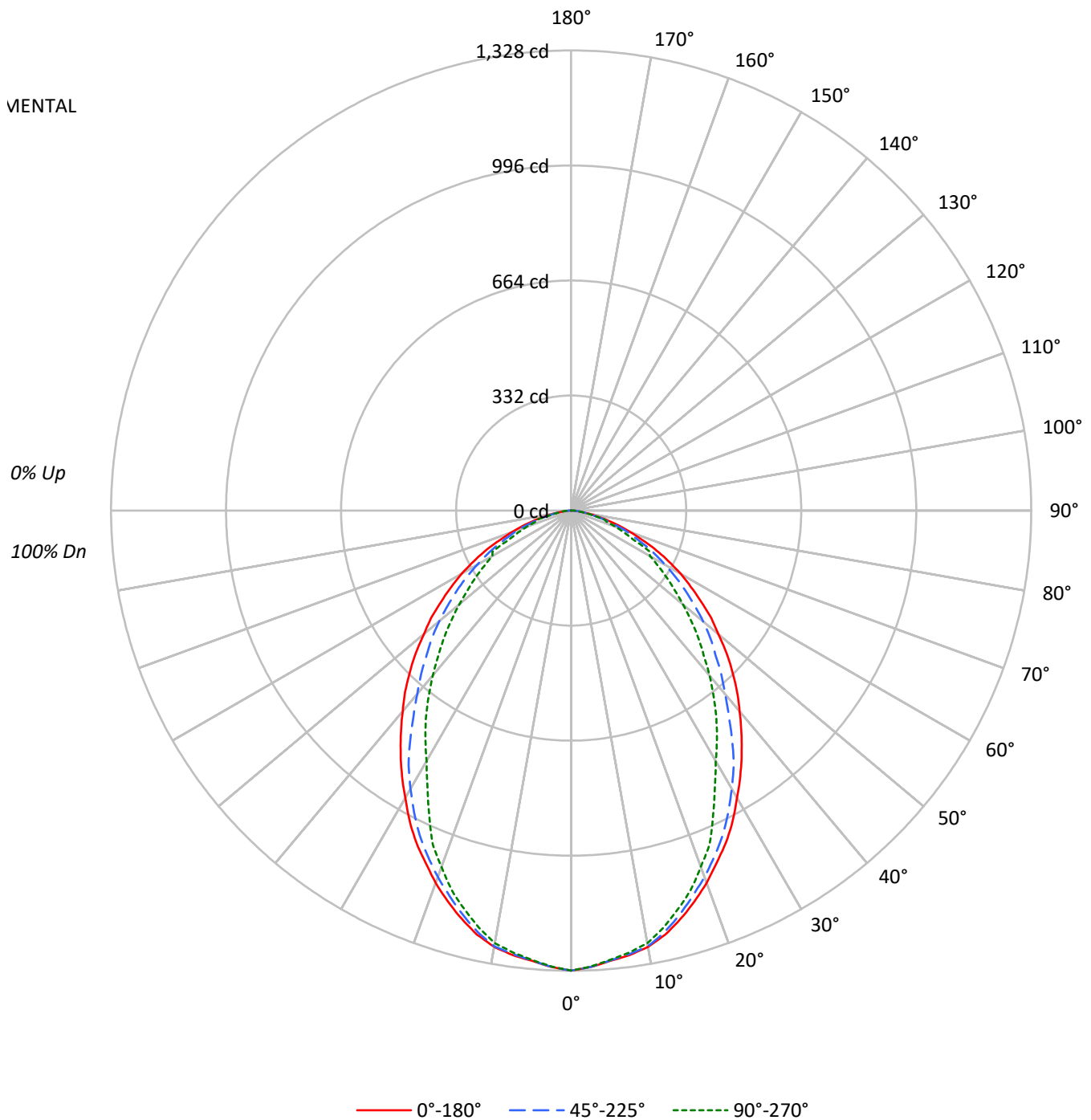
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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°	3572	3572	3572
5°	3524	3519	3515
10°	3493	3489	3464
15°	3399	3365	3318
20°	3274	3221	3133
25°	3140	3071	2880
30°	2976	2880	2594
35°	2818	2662	2400
40°	2658	2426	2183
45°	2506	2243	1974
50°	2319	2081	1760
55°	2145	1886	1577
60°	1965	1685	1412
65°	1729	1475	1251
70°	1425	1292	1062
75°	1133	989	1038
80°	761	713	666
85°	472	568	664

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2506 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.6	4.7
10°-20°	339.1	13.0
20°-30°	469.5	18.0
30°-40°	500.6	19.2
40°-50°	456.7	17.5
50°-60°	357.8	13.7
60°-70°	233.2	8.9
70°-80°	103.3	4.0
80°-90°	22.2	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°	932.2	35.8
0°-40°	1432.8	55.0
0°-60°	2247.3	86.2
0°-90°	2606.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2606.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1328	1328	1328	1328	1328	
5°	1304	1303	1303	1301	1301	124
15°	1220	1220	1208	1196	1191	343
25°	1057	1051	1034	998	970	485
35°	858	852	810	749	730	536
45°	658	644	589	540	519	507
55°	457	444	402	354	336	410
65°	272	256	232	236	196	268
75°	109	101	95	90	100	117
85°	15	17	18	20	22	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1327.5	1327.5	1327.5	1327.5	1327.5
2.5°	1318.3	1318.3	1318.3	1316.7	1316.7
5°	1304.4	1302.9	1302.9	1301.4	1301.4
7.5°	1293.7	1292.2	1290.6	1289.1	1286.0
10°	1278.4	1278.4	1276.8	1269.1	1267.6
12.5°	1253.8	1252.3	1246.1	1235.4	1232.3
15°	1220.0	1220.0	1207.8	1195.5	1190.9
17.5°	1183.2	1181.7	1166.3	1154.0	1147.9
20°	1143.3	1140.2	1124.9	1104.9	1094.2
22.5°	1098.8	1098.8	1080.4	1054.3	1043.6
25°	1057.4	1051.2	1034.3	997.5	969.9
27.5°	1009.8	1000.6	982.2	930.0	897.8
30°	957.6	953.0	926.9	859.4	834.8
32.5°	908.5	900.8	873.2	802.6	782.7
35°	857.9	851.7	810.3	748.9	730.5
37.5°	807.2	799.5	747.4	698.3	675.2
40°	756.6	747.4	690.6	646.1	621.5
42.5°	709.0	696.7	641.5	593.9	566.3
45°	658.4	644.5	589.3	540.2	518.7
47.5°	607.7	595.4	544.8	494.2	469.6
50°	554.0	543.3	497.2	446.6	420.5
52.5°	509.5	492.6	448.1	397.5	376.0
55°	457.3	443.5	402.1	354.5	336.1
57.5°	409.7	395.9	357.6	313.1	297.7
60°	365.2	345.3	313.1	274.7	262.4
62.5°	316.1	300.8	273.2	240.9	256.3
65°	271.6	256.3	231.7	236.3	196.4
67.5°	222.5	214.8	193.4	171.9	165.7
70°	181.1	171.9	164.2	141.2	135.0
72.5°	144.3	135.0	124.3	112.0	107.4
75°	109.0	101.3	95.1	90.5	99.8
77.5°	75.2	72.1	67.5	62.9	61.4
80°	49.1	47.6	46.0	44.5	43.0
82.5°	29.2	29.2	29.2	29.2	29.2
85°	15.3	16.9	18.4	20.0	21.5
87.5°	9.2	9.2	10.7	12.3	13.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)