

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: P561241

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561241
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-40-UNV-82-88-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2634.0 lumens
Efficiency: N/A
Efficacy: 79.1 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

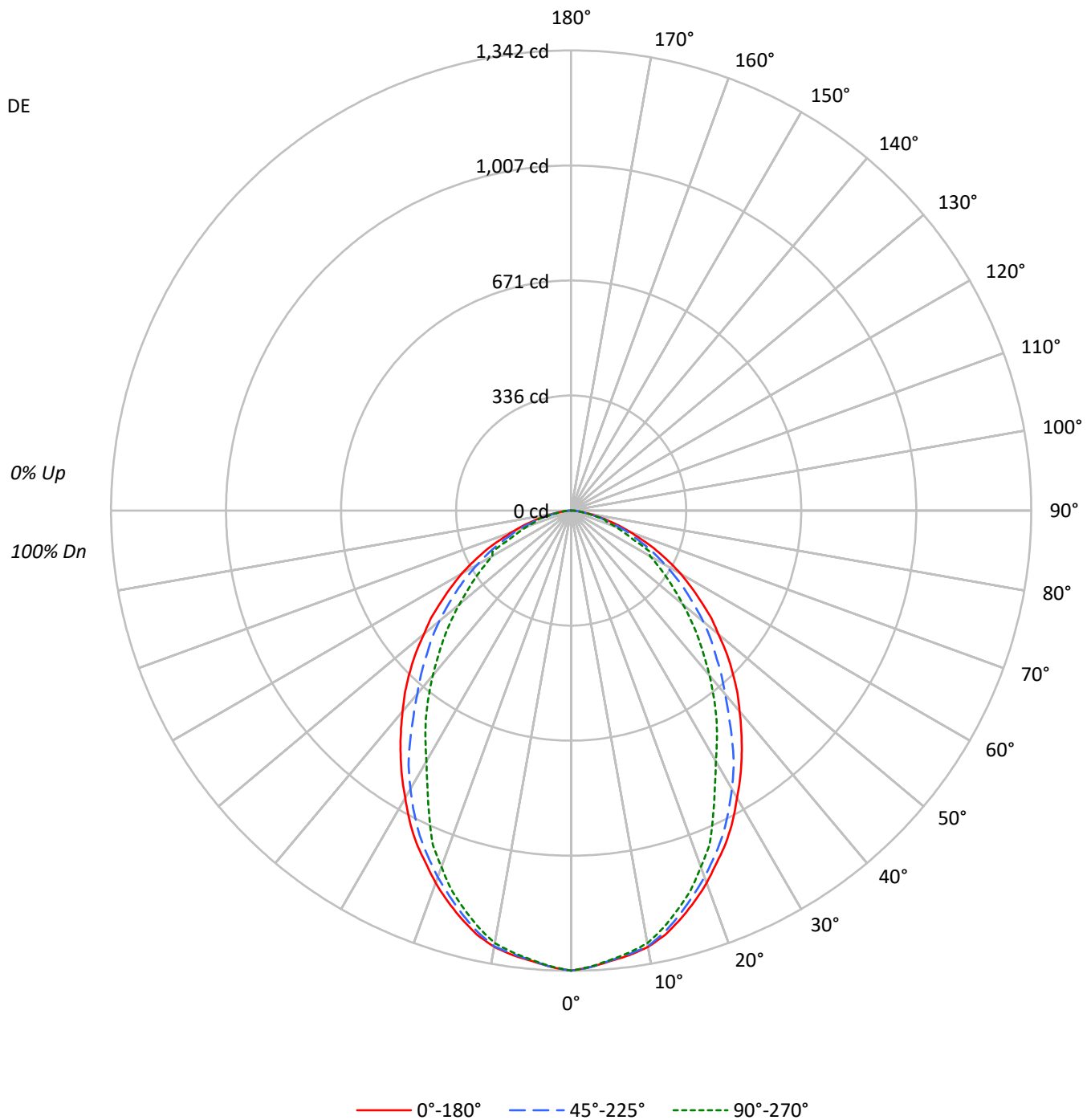
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3610	3610	3610
5°	3562	3557	3553
10°	3531	3526	3501
15°	3435	3401	3353
20°	3309	3256	3167
25°	3173	3104	2911
30°	3008	2911	2622
35°	2848	2690	2425
40°	2686	2452	2207
45°	2532	2267	1995
50°	2344	2104	1779
55°	2168	1907	1594
60°	1987	1703	1427
65°	1748	1491	1264
70°	1440	1306	1074
75°	1145	1000	1048
80°	769	721	673
85°	479	574	670

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2532 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.9	4.7
10°-20°	342.8	13.0
20°-30°	474.5	18.0
30°-40°	506.0	19.2
40°-50°	461.6	17.5
50°-60°	361.6	13.7
60°-70°	235.7	8.9
70°-80°	104.4	4.0
80°-90°	22.4	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°	942.2	35.8
0°-40°	1448.2	55.0
0°-60°	2271.4	86.2
0°-90°	2634.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2634.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1342	1342	1342	1342	1342	
5°	1318	1317	1317	1315	1315	125
15°	1233	1233	1221	1208	1204	347
25°	1069	1062	1046	1008	980	491
35°	867	861	819	757	738	542
45°	665	652	596	546	524	513
55°	462	448	406	358	340	415
65°	274	259	234	239	198	271
75°	110	102	96	92	101	118
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1341.7	1341.7	1341.7	1341.7	1341.7
2.5°	1332.4	1332.4	1332.4	1330.9	1330.9
5°	1318.5	1316.9	1316.9	1315.4	1315.4
7.5°	1307.6	1306.0	1304.5	1302.9	1299.8
10°	1292.1	1292.1	1290.5	1282.8	1281.2
12.5°	1267.3	1265.7	1259.5	1248.7	1245.6
15°	1233.1	1233.1	1220.7	1208.3	1203.7
17.5°	1195.9	1194.4	1178.9	1166.4	1160.2
20°	1155.6	1152.5	1137.0	1116.8	1106.0
22.5°	1110.6	1110.6	1092.0	1065.6	1054.8
25°	1068.7	1062.5	1045.5	1008.2	980.3
27.5°	1020.6	1011.3	992.7	940.0	907.4
30°	967.9	963.2	936.9	868.6	843.8
32.5°	918.3	910.5	882.6	811.2	791.1
35°	867.1	860.9	819.0	756.9	738.3
37.5°	815.9	808.1	755.4	705.8	682.5
40°	764.7	755.4	698.0	653.0	628.2
42.5°	716.6	704.2	648.4	600.3	572.4
45°	665.4	651.5	595.6	546.0	524.3
47.5°	614.2	601.8	550.6	499.5	474.6
50°	560.0	549.1	502.6	451.4	425.0
52.5°	515.0	497.9	452.9	401.7	380.0
55°	462.2	448.3	406.4	358.3	339.7
57.5°	414.2	400.2	361.4	316.4	300.9
60°	369.2	349.0	316.4	277.7	265.2
62.5°	319.5	304.0	276.1	243.5	259.0
65°	274.5	259.0	234.2	238.9	198.5
67.5°	224.9	217.2	195.4	173.7	167.5
70°	183.0	173.7	166.0	142.7	136.5
72.5°	145.8	136.5	125.6	113.2	108.6
75°	110.1	102.4	96.2	91.5	100.8
77.5°	76.0	72.9	68.2	63.6	62.0
80°	49.6	48.1	46.5	45.0	43.4
82.5°	29.5	29.5	29.5	29.5	29.5
85°	15.5	17.1	18.6	20.2	21.7
87.5°	9.3	9.3	10.9	12.4	14.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)