

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: P561138

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-80-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561138
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-80-85-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2724.0 lumens
Efficiency: N/A
Efficacy: 81.8 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

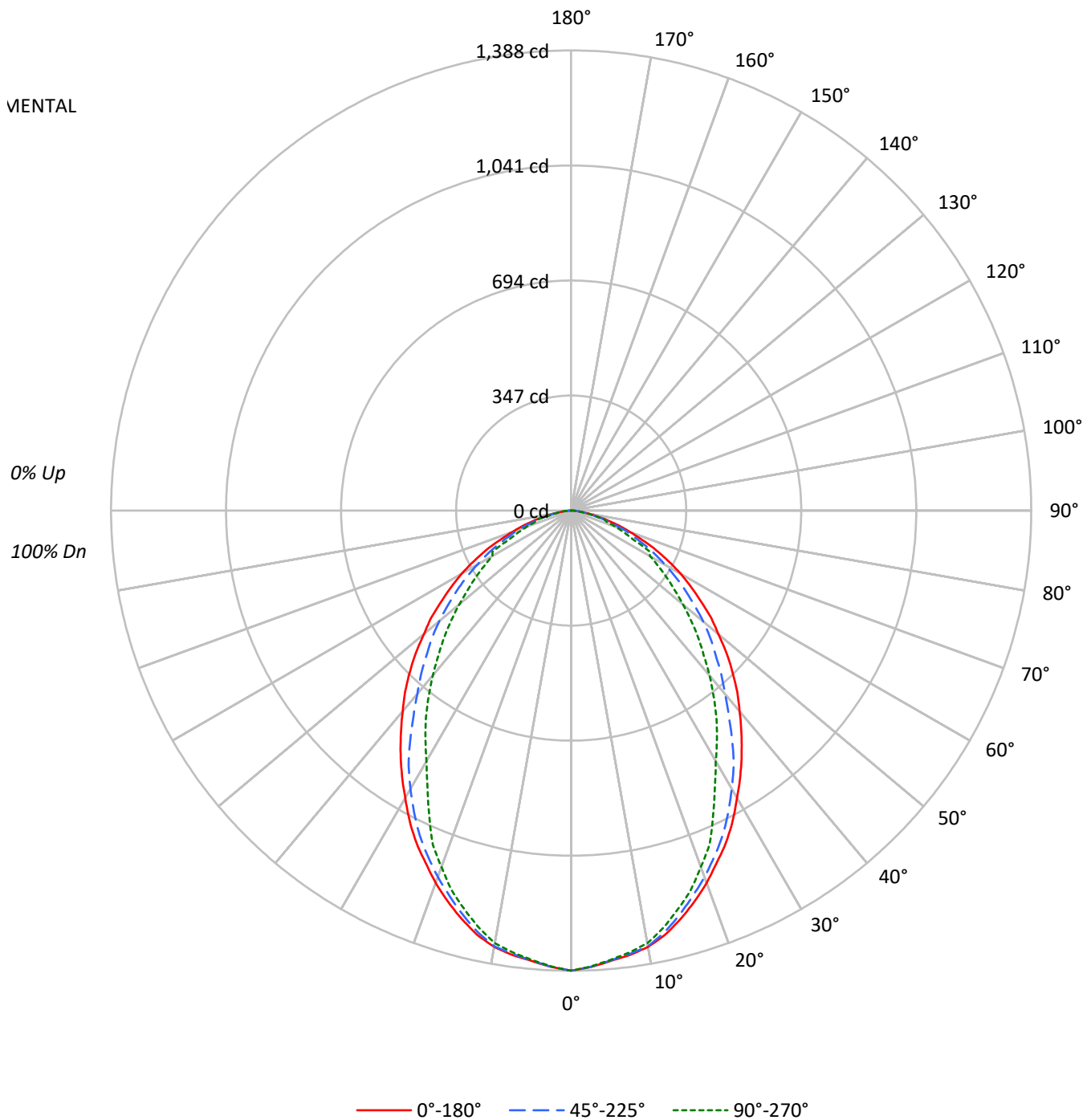
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3734	3734	3734
5°	3683	3679	3675
10°	3651	3647	3621
15°	3553	3517	3468
20°	3422	3367	3275
25°	3282	3210	3010
30°	3110	3011	2711
35°	2946	2782	2508
40°	2778	2536	2282
45°	2619	2344	2063
50°	2424	2176	1840
55°	2243	1972	1648
60°	2055	1761	1476
65°	1808	1542	1307
70°	1489	1350	1111
75°	1184	1035	1084
80°	795	745	696
85°	494	593	695

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2619 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.2	4.7
10°-20°	354.5	13.0
20°-30°	490.8	18.0
30°-40°	523.3	19.2
40°-50°	477.4	17.5
50°-60°	374.0	13.7
60°-70°	243.7	8.9
70°-80°	108.0	4.0
80°-90°	23.2	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°	974.4	35.8
0°-40°	1497.7	55.0
0°-60°	2349.1	86.2
0°-90°	2724.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2724.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1364	1362	1362	1360	1360	129
15°	1275	1275	1262	1250	1245	359
25°	1105	1099	1081	1043	1014	507
35°	897	890	847	783	764	561
45°	688	674	616	565	542	530
55°	478	464	420	371	351	429
65°	284	268	242	247	205	280
75°	114	106	100	95	104	122
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1387.6	1387.6	1387.6	1387.6	1387.6
2.5°	1377.9	1377.9	1377.9	1376.3	1376.3
5°	1363.5	1361.9	1361.9	1360.3	1360.3
7.5°	1352.3	1350.7	1349.1	1347.5	1344.3
10°	1336.2	1336.2	1334.6	1326.6	1325.0
12.5°	1310.6	1309.0	1302.6	1291.3	1288.1
15°	1275.3	1275.3	1262.4	1249.6	1244.8
17.5°	1236.8	1235.2	1219.1	1206.3	1199.9
20°	1195.1	1191.9	1175.8	1155.0	1143.7
22.5°	1148.6	1148.6	1129.3	1102.0	1090.8
25°	1105.2	1098.8	1081.2	1042.7	1013.8
27.5°	1055.5	1045.9	1026.6	972.1	938.4
30°	1001.0	996.2	968.9	898.3	872.6
32.5°	949.6	941.6	912.7	839.0	818.1
35°	896.7	890.3	847.0	782.8	763.6
37.5°	843.8	835.7	781.2	729.9	705.8
40°	790.8	781.2	721.9	675.3	649.7
42.5°	741.1	728.3	670.5	620.8	591.9
45°	688.2	673.7	616.0	564.7	542.2
47.5°	635.2	622.4	569.5	516.5	490.9
50°	579.1	567.9	519.7	466.8	439.5
52.5°	532.6	514.9	468.4	415.5	393.0
55°	478.0	463.6	420.3	370.6	351.3
57.5°	428.3	413.9	373.8	327.2	311.2
60°	381.8	360.9	327.2	287.1	274.3
62.5°	330.5	314.4	285.5	251.8	267.9
65°	283.9	267.9	242.2	247.0	205.3
67.5°	232.6	224.6	202.1	179.7	173.2
70°	189.3	179.7	171.6	147.6	141.2
72.5°	150.8	141.2	129.9	117.1	112.3
75°	113.9	105.9	99.5	94.6	104.3
77.5°	78.6	75.4	70.6	65.8	64.2
80°	51.3	49.7	48.1	46.5	44.9
82.5°	30.5	30.5	30.5	30.5	30.5
85°	16.0	17.6	19.2	20.9	22.5
87.5°	9.6	9.6	11.2	12.8	14.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)