

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: P560816

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560816
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-LD4-1HI-40-UNV-80-84-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3457.0 lumens
Efficiency: N/A
Efficacy: 80.0 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

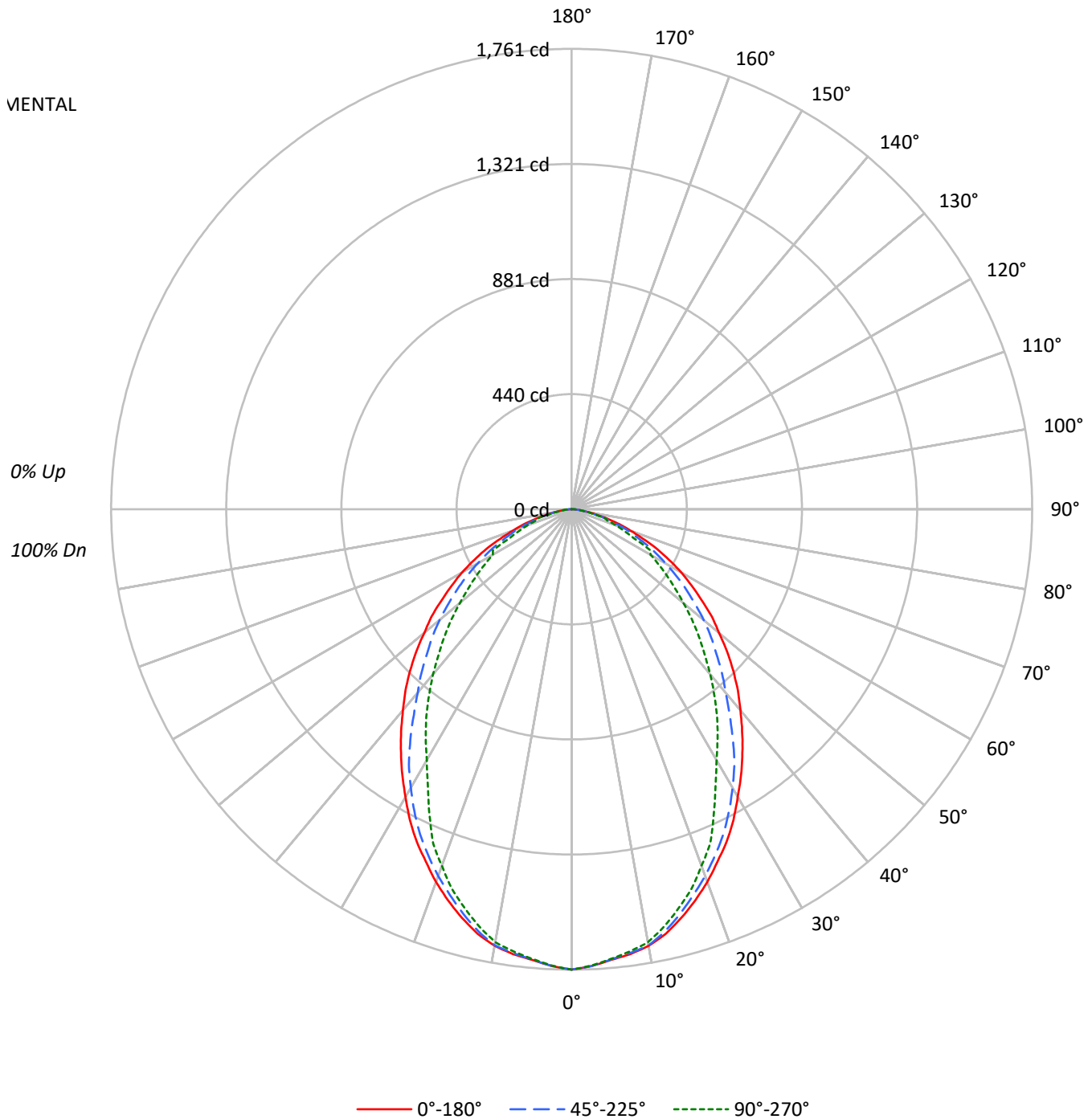
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4739	4739	4739
5°	4674	4669	4663
10°	4634	4628	4595
15°	4509	4464	4401
20°	4343	4273	4157
25°	4165	4074	3820
30°	3947	3821	3441
35°	3738	3531	3183
40°	3525	3218	2896
45°	3323	2975	2619
50°	3077	2761	2335
55°	2846	2502	2092
60°	2608	2235	1873
65°	2294	1957	1659
70°	1890	1714	1409
75°	1502	1312	1376
80°	1009	947	883
85°	630	753	880

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3323 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.9	4.7
10°-20°	449.9	13.0
20°-30°	622.8	18.0
30°-40°	664.1	19.2
40°-50°	605.8	17.5
50°-60°	474.6	13.7
60°-70°	309.3	8.9
70°-80°	137.1	4.0
80°-90°	29.4	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°	1236.6	35.8
0°-40°	1900.7	55.0
0°-60°	2981.2	86.2
0°-90°	3457.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3457.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1761	1761	1761	1761	1761	
5°	1730	1728	1728	1726	1726	164
15°	1618	1618	1602	1586	1580	455
25°	1403	1394	1372	1323	1287	644
35°	1138	1130	1075	994	969	711
45°	873	855	782	717	688	673
55°	607	588	533	470	446	544
65°	360	340	307	314	261	355
75°	144	134	126	120	132	155
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1760.9	1760.9	1760.9	1760.9	1760.9
2.5°	1748.7	1748.7	1748.7	1746.7	1746.7
5°	1730.4	1728.4	1728.4	1726.3	1726.3
7.5°	1716.2	1714.1	1712.1	1710.1	1706.0
10°	1695.8	1695.8	1693.8	1683.6	1681.6
12.5°	1663.2	1661.2	1653.1	1638.8	1634.7
15°	1618.4	1618.4	1602.2	1585.9	1579.8
17.5°	1569.6	1567.6	1547.2	1530.9	1522.8
20°	1516.7	1512.6	1492.2	1465.8	1451.5
22.5°	1457.6	1457.6	1433.2	1398.6	1384.3
25°	1402.7	1394.5	1372.1	1323.3	1286.6
27.5°	1339.5	1327.3	1302.9	1233.7	1190.9
30°	1270.3	1264.2	1229.6	1140.0	1107.5
32.5°	1205.2	1195.0	1158.4	1064.7	1038.2
35°	1138.0	1129.9	1074.9	993.5	969.0
37.5°	1070.8	1060.6	991.4	926.3	895.7
40°	1003.6	991.4	916.1	857.1	824.5
42.5°	940.5	924.2	851.0	787.8	751.2
45°	873.3	855.0	781.7	716.6	688.1
47.5°	806.2	789.9	722.7	655.5	622.9
50°	734.9	720.7	659.6	592.4	557.8
52.5°	675.9	653.5	594.4	527.3	498.8
55°	606.7	588.3	533.4	470.3	445.8
57.5°	543.6	525.2	474.3	415.3	394.9
60°	484.5	458.1	415.3	364.4	348.1
62.5°	419.4	399.0	362.4	319.6	340.0
65°	360.3	340.0	307.4	313.5	260.6
67.5°	295.2	285.0	256.5	228.0	219.9
70°	240.2	228.0	217.8	187.3	179.1
72.5°	191.4	179.1	164.9	148.6	142.5
75°	144.5	134.4	126.2	120.1	132.3
77.5°	99.8	95.7	89.6	83.5	81.4
80°	65.1	63.1	61.1	59.0	57.0
82.5°	38.7	38.7	38.7	38.7	38.7
85°	20.4	22.4	24.4	26.5	28.5
87.5°	12.2	12.2	14.3	16.3	18.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)