

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: P560896

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560896
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-50-UNV-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3458.0 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

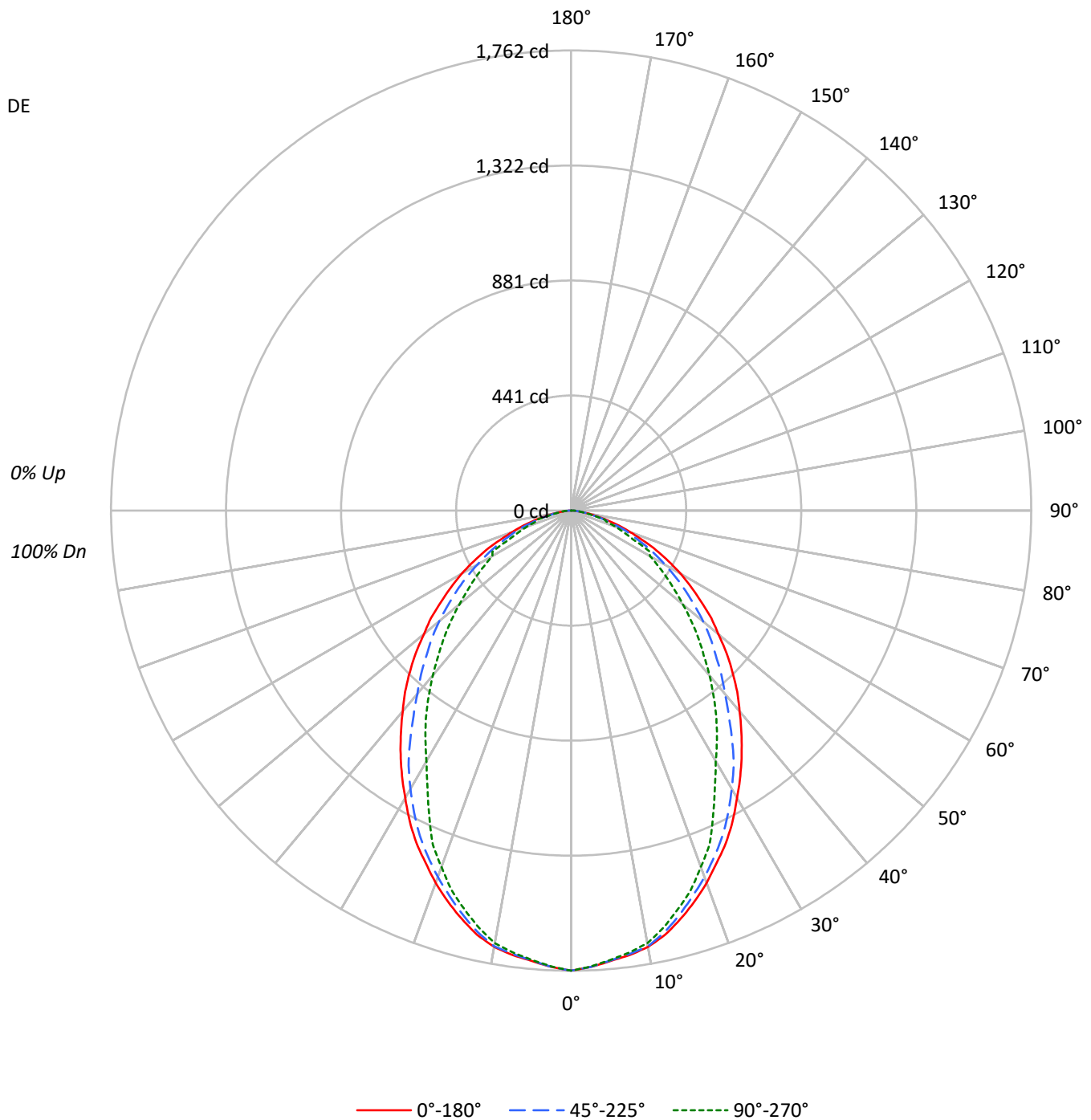
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4740	4740	4740
5°	4676	4670	4665
10°	4635	4630	4596
15°	4510	4465	4402
20°	4344	4275	4158
25°	4166	4075	3821
30°	3948	3822	3442
35°	3739	3532	3184
40°	3527	3219	2897
45°	3325	2976	2619
50°	3077	2762	2336
55°	2847	2503	2092
60°	2609	2236	1874
65°	2295	1958	1660
70°	1891	1714	1410
75°	1503	1313	1377
80°	1010	947	883
85°	630	753	880

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3325 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.0	4.7
10°-20°	450.0	13.0
20°-30°	623.0	18.0
30°-40°	664.3	19.2
40°-50°	606.0	17.5
50°-60°	474.8	13.7
60°-70°	309.4	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°	1236.9	35.8
0°-40°	1901.2	55.0
0°-60°	2982.0	86.2
0°-90°	3458.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3458.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1762	1762	1762	1762	1762	
5°	1731	1729	1729	1727	1727	164
15°	1619	1619	1603	1586	1580	455
25°	1403	1395	1372	1324	1287	644
35°	1138	1130	1075	994	969	712
45°	874	855	782	717	688	673
55°	607	588	534	470	446	544
65°	360	340	308	314	261	355
75°	145	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°	1761.5	1761.5	1761.5	1761.5	1761.5
2.5°	1749.2	1749.2	1749.2	1747.2	1747.2
5°	1730.9	1728.9	1728.9	1726.8	1726.8
7.5°	1716.7	1714.6	1712.6	1710.5	1706.5
10°	1696.3	1696.3	1694.3	1684.1	1682.0
12.5°	1663.7	1661.7	1653.5	1639.3	1635.2
15°	1618.9	1618.9	1602.6	1586.3	1580.2
17.5°	1570.0	1568.0	1547.6	1531.3	1523.2
20°	1517.1	1513.0	1492.7	1466.2	1451.9
22.5°	1458.0	1458.0	1433.6	1399.0	1384.7
25°	1403.1	1394.9	1372.5	1323.6	1287.0
27.5°	1339.9	1327.7	1303.3	1234.0	1191.3
30°	1270.7	1264.6	1230.0	1140.4	1107.8
32.5°	1205.5	1195.3	1158.7	1065.0	1038.5
35°	1138.3	1130.2	1075.2	993.7	969.3
37.5°	1071.1	1060.9	991.7	926.5	896.0
40°	1003.9	991.7	916.4	857.3	824.7
42.5°	940.8	924.5	851.2	788.1	751.4
45°	873.6	855.3	782.0	716.8	688.3
47.5°	806.4	790.1	722.9	655.7	623.1
50°	735.1	720.9	659.8	592.6	558.0
52.5°	676.1	653.7	594.6	527.4	498.9
55°	606.8	588.5	533.5	470.4	446.0
57.5°	543.7	525.4	474.5	415.4	395.1
60°	484.7	458.2	415.4	364.5	348.2
62.5°	419.5	399.1	362.5	319.7	340.1
65°	360.4	340.1	307.5	313.6	260.7
67.5°	295.3	285.1	256.6	228.1	219.9
70°	240.3	228.1	217.9	187.3	179.2
72.5°	191.4	179.2	164.9	148.7	142.5
75°	144.6	134.4	126.3	120.1	132.4
77.5°	99.8	95.7	89.6	83.5	81.5
80°	65.2	63.1	61.1	59.1	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)