

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: P560878

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560878
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-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3311.0 lumens
Efficiency: N/A
Efficacy: 76.6 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

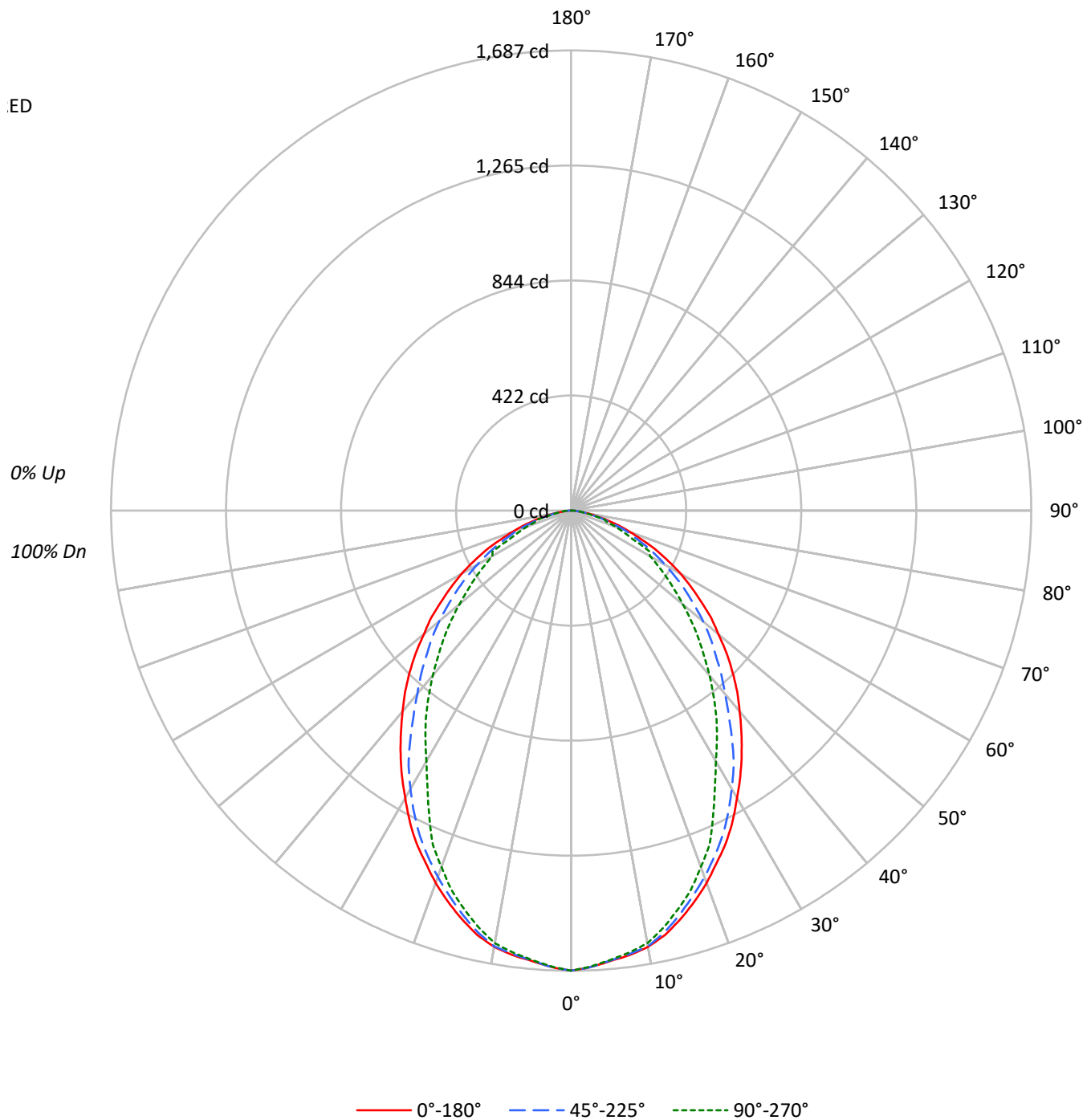
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4539	4539	4539
5°	4477	4472	4466
10°	4438	4433	4401
15°	4318	4275	4215
20°	4160	4093	3981
25°	3989	3902	3659
30°	3781	3659	3296
35°	3580	3382	3049
40°	3377	3082	2774
45°	3183	2849	2508
50°	2947	2645	2236
55°	2726	2396	2003
60°	2498	2141	1794
65°	2197	1875	1589
70°	1810	1641	1350
75°	1439	1257	1317
80°	967	907	846
85°	602	722	843

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3183 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.0	4.7
10°-20°	430.9	13.0
20°-30°	596.5	18.0
30°-40°	636.0	19.2
40°-50°	580.3	17.5
50°-60°	454.6	13.7
60°-70°	296.3	8.9
70°-80°	131.3	4.0
80°-90°	28.2	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°	1184.4	35.8
0°-40°	1820.4	55.0
0°-60°	2855.3	86.2
0°-90°	3311.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3311.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1687	1687	1687	1687	1687	
5°	1657	1655	1655	1653	1653	157
15°	1550	1550	1534	1519	1513	436
25°	1343	1336	1314	1267	1232	617
35°	1090	1082	1030	952	928	681
45°	836	819	749	686	659	644
55°	581	564	511	450	427	521
65°	345	326	294	300	250	340
75°	138	129	121	115	127	148
85°	20	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1686.6	1686.6	1686.6	1686.6	1686.6
2.5°	1674.9	1674.9	1674.9	1672.9	1672.9
5°	1657.3	1655.4	1655.4	1653.4	1653.4
7.5°	1643.7	1641.7	1639.8	1637.8	1633.9
10°	1624.2	1624.2	1622.2	1612.5	1610.5
12.5°	1593.0	1591.0	1583.2	1569.6	1565.7
15°	1550.1	1550.1	1534.5	1518.9	1513.0
17.5°	1503.3	1501.3	1481.8	1466.3	1458.5
20°	1452.6	1448.7	1429.2	1403.9	1390.2
22.5°	1396.1	1396.1	1372.7	1339.5	1325.9
25°	1343.4	1335.6	1314.2	1267.4	1232.3
27.5°	1283.0	1271.3	1247.9	1181.6	1140.6
30°	1216.7	1210.8	1177.7	1091.9	1060.7
32.5°	1154.3	1144.5	1109.4	1019.7	994.4
35°	1089.9	1082.1	1029.5	951.5	928.1
37.5°	1025.6	1015.8	949.6	887.2	857.9
40°	961.3	949.6	877.4	820.9	789.7
42.5°	900.8	885.2	815.0	754.6	719.5
45°	836.5	818.9	748.7	686.3	659.0
47.5°	772.1	756.5	692.2	627.8	596.6
50°	703.9	690.2	631.7	567.4	534.2
52.5°	647.3	625.9	569.3	505.0	477.7
55°	581.0	563.5	510.8	450.4	427.0
57.5°	520.6	503.0	454.3	397.8	378.3
60°	464.1	438.7	397.8	349.0	333.4
62.5°	401.7	382.2	347.1	306.1	325.6
65°	345.1	325.6	294.4	300.3	249.6
67.5°	282.7	273.0	245.7	218.4	210.6
70°	230.1	218.4	208.6	179.4	171.6
72.5°	183.3	171.6	157.9	142.3	136.5
75°	138.4	128.7	120.9	115.0	126.7
77.5°	95.5	91.6	85.8	79.9	78.0
80°	62.4	60.4	58.5	56.5	54.6
82.5°	37.0	37.0	37.0	37.0	37.0
85°	19.5	21.4	23.4	25.3	27.3
87.5°	11.7	11.7	13.6	15.6	17.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)