

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: P561592

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561592
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-LD4-2LO-40-UNV-80-88-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3554.0 lumens
Efficiency: N/A
Efficacy: 75.9 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

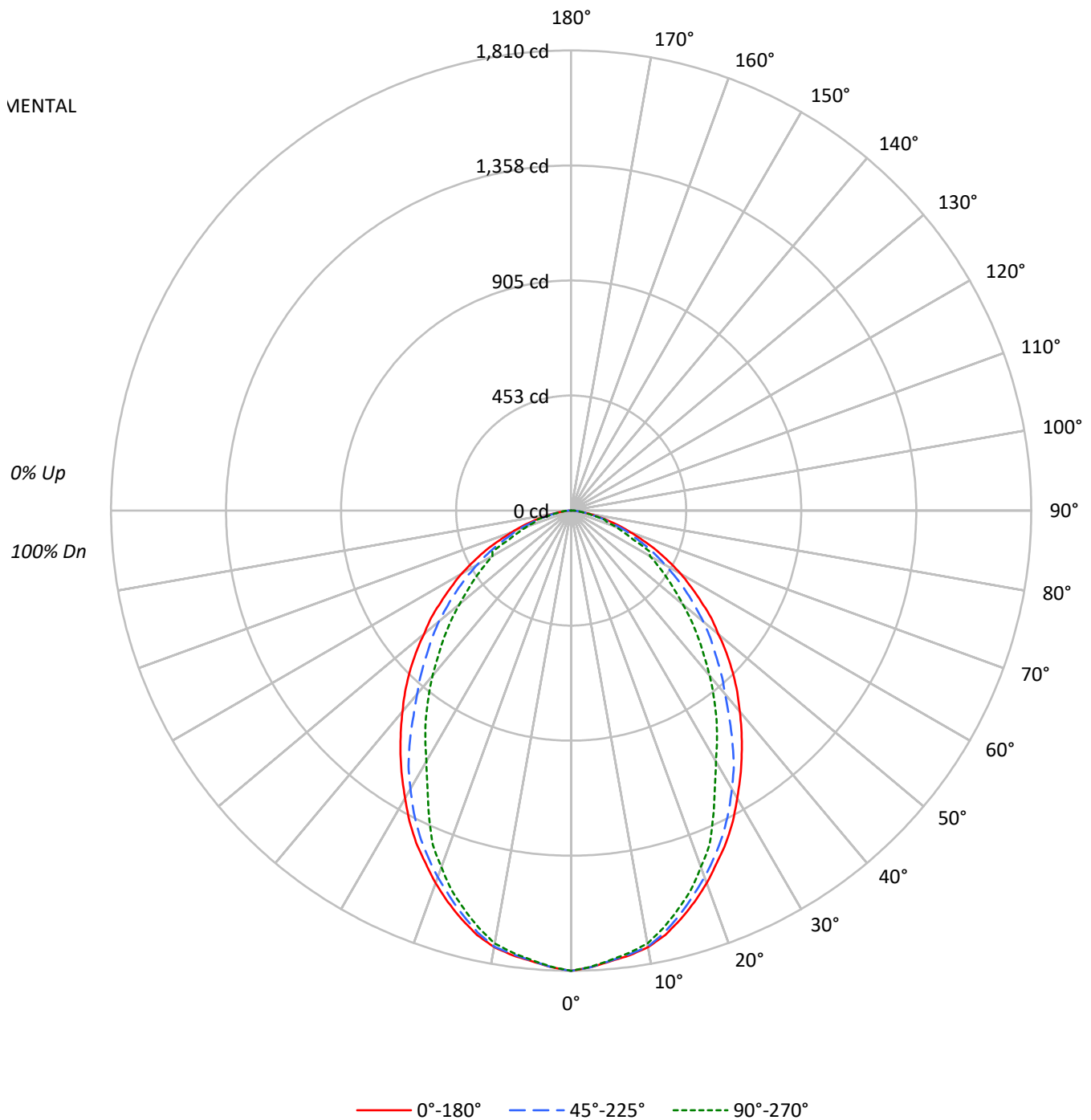
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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													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°	4872	4872	4872
5°	4806	4800	4794
10°	4764	4758	4724
15°	4635	4589	4525
20°	4465	4393	4273
25°	4282	4188	3927
30°	4058	3928	3538
35°	3843	3630	3273
40°	3625	3308	2977
45°	3417	3059	2692
50°	3163	2839	2401
55°	2926	2572	2150
60°	2681	2298	1926
65°	2358	2012	1706
70°	1943	1762	1449
75°	1545	1350	1414
80°	1038	973	908
85°	645	775	905

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3417 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.5	4.7
10°-20°	462.5	13.0
20°-30°	640.3	18.0
30°-40°	682.7	19.2
40°-50°	622.8	17.5
50°-60°	487.9	13.7
60°-70°	318.0	8.9
70°-80°	140.9	4.0
80°-90°	30.3	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°	1271.3	35.8
0°-40°	1954.0	55.0
0°-60°	3064.8	86.2
0°-90°	3554.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3554.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1810	1810	1810	1810	1810	
5°	1779	1777	1777	1775	1775	169
15°	1664	1664	1647	1630	1624	468
25°	1442	1434	1411	1360	1323	662
35°	1170	1162	1105	1021	996	731
45°	898	879	804	737	707	692
55°	624	605	548	484	458	559
65°	370	350	316	322	268	365
75°	149	138	130	124	136	159
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1810.4	1810.4	1810.4	1810.4	1810.4
2.5°	1797.8	1797.8	1797.8	1795.7	1795.7
5°	1779.0	1776.9	1776.9	1774.8	1774.8
7.5°	1764.3	1762.2	1760.1	1758.0	1753.9
10°	1743.4	1743.4	1741.3	1730.8	1728.7
12.5°	1709.9	1707.8	1699.4	1684.8	1680.6
15°	1663.9	1663.9	1647.1	1630.4	1624.1
17.5°	1613.6	1611.5	1590.6	1573.9	1565.5
20°	1559.2	1555.0	1534.1	1506.9	1492.2
22.5°	1498.5	1498.5	1473.4	1437.8	1423.2
25°	1442.0	1433.6	1410.6	1360.4	1322.7
27.5°	1377.1	1364.6	1339.5	1268.3	1224.3
30°	1306.0	1299.7	1264.1	1172.0	1138.5
32.5°	1239.0	1228.5	1190.9	1094.6	1067.4
35°	1169.9	1161.6	1105.1	1021.3	996.2
37.5°	1100.9	1090.4	1019.2	952.3	920.9
40°	1031.8	1019.2	941.8	881.1	847.6
42.5°	966.9	950.2	874.8	810.0	772.3
45°	897.9	879.0	803.7	736.7	707.4
47.5°	828.8	812.0	743.0	673.9	640.4
50°	755.5	740.9	678.1	609.0	573.5
52.5°	694.8	671.8	611.1	542.1	512.8
55°	623.7	604.8	548.3	483.5	458.3
57.5°	558.8	540.0	487.6	427.0	406.0
60°	498.1	470.9	427.0	374.6	357.9
62.5°	431.1	410.2	372.5	328.6	349.5
65°	370.4	349.5	316.0	322.3	267.9
67.5°	303.5	293.0	263.7	234.4	226.0
70°	247.0	234.4	223.9	192.5	184.2
72.5°	196.7	184.2	169.5	152.8	146.5
75°	148.6	138.1	129.8	123.5	136.0
77.5°	102.6	98.4	92.1	85.8	83.7
80°	67.0	64.9	62.8	60.7	58.6
82.5°	39.8	39.8	39.8	39.8	39.8
85°	20.9	23.0	25.1	27.2	29.3
87.5°	12.6	12.6	14.7	16.7	18.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)