

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: P561259

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561259
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-40-UNV-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3369.0 lumens
Efficiency: N/A
Efficacy: 101.2 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

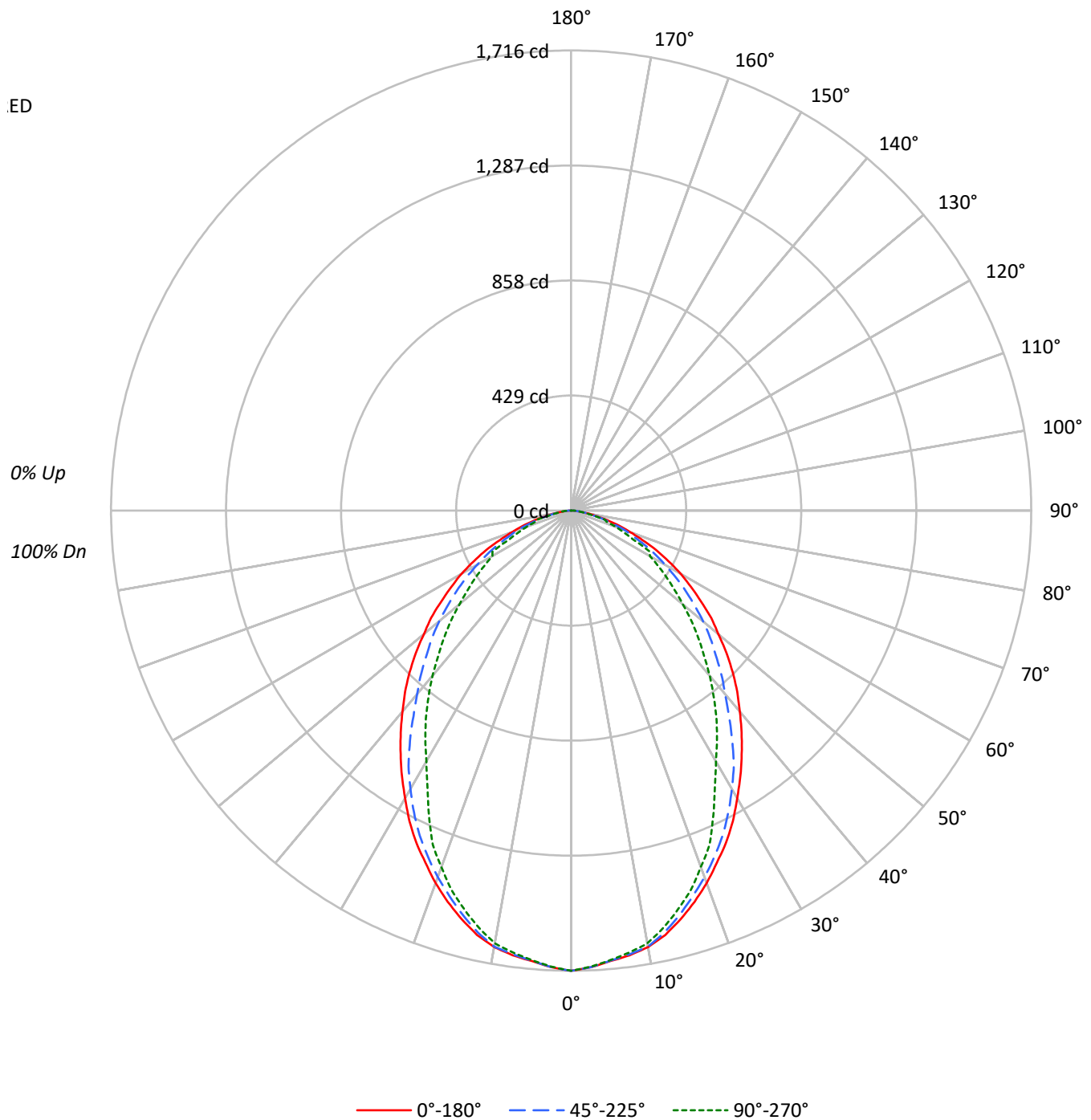
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	4618	4618	4618
5°	4555	4550	4545
10°	4516	4511	4478
15°	4394	4350	4289
20°	4233	4164	4051
25°	4059	3970	3723
30°	3847	3723	3354
35°	3643	3441	3102
40°	3436	3136	2823
45°	3239	2899	2552
50°	2998	2691	2276
55°	2774	2439	2038
60°	2541	2178	1826
65°	2236	1908	1617
70°	1842	1670	1374
75°	1465	1279	1341
80°	984	922	862
85°	611	735	858

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3239 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.7	4.7
10°-20°	438.4	13.0
20°-30°	607.0	18.0
30°-40°	647.2	19.2
40°-50°	590.4	17.5
50°-60°	462.6	13.7
60°-70°	301.5	8.9
70°-80°	133.6	4.0
80°-90°	28.7	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°	1205.1	35.8
0°-40°	1852.3	55.0
0°-60°	2905.3	86.2
0°-90°	3369.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3369.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1686	1684	1684	1682	1682	160
15°	1577	1577	1561	1546	1540	443
25°	1367	1359	1337	1290	1254	628
35°	1109	1101	1048	968	944	693
45°	851	833	762	698	671	656
55°	591	573	520	458	434	530
65°	351	331	300	306	254	346
75°	141	131	123	117	129	151
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°	1716.1	1716.1	1716.1	1716.1	1716.1
2.5°	1704.2	1704.2	1704.2	1702.2	1702.2
5°	1686.4	1684.4	1684.4	1682.4	1682.4
7.5°	1672.5	1670.5	1668.5	1666.5	1662.6
10°	1652.6	1652.6	1650.7	1640.7	1638.7
12.5°	1620.9	1618.9	1611.0	1597.1	1593.1
15°	1577.2	1577.2	1561.4	1545.5	1539.6
17.5°	1529.6	1527.6	1507.8	1491.9	1484.0
20°	1478.0	1474.1	1454.2	1428.4	1414.6
22.5°	1420.5	1420.5	1396.7	1363.0	1349.1
25°	1366.9	1359.0	1337.2	1289.6	1253.9
27.5°	1305.4	1293.5	1269.7	1202.3	1160.6
30°	1238.0	1232.0	1198.3	1111.0	1079.3
32.5°	1174.5	1164.6	1128.9	1037.6	1011.8
35°	1109.0	1101.1	1047.5	968.2	944.4
37.5°	1043.6	1033.6	966.2	902.7	872.9
40°	978.1	966.2	892.8	835.2	803.5
42.5°	916.6	900.7	829.3	767.8	732.1
45°	851.1	833.3	761.8	698.4	670.6
47.5°	785.6	769.8	704.3	638.8	607.1
50°	716.2	702.3	642.8	577.3	543.6
52.5°	658.7	636.9	579.3	513.8	486.1
55°	591.2	573.4	519.8	458.3	434.5
57.5°	529.7	511.9	462.3	404.7	384.9
60°	472.2	446.4	404.7	355.1	339.3
62.5°	408.7	388.9	353.1	311.5	331.3
65°	351.2	331.3	299.6	305.5	253.9
67.5°	287.7	277.8	250.0	222.2	214.3
70°	234.1	222.2	212.3	182.5	174.6
72.5°	186.5	174.6	160.7	144.8	138.9
75°	140.9	130.9	123.0	117.1	129.0
77.5°	97.2	93.2	87.3	81.3	79.4
80°	63.5	61.5	59.5	57.5	55.6
82.5°	37.7	37.7	37.7	37.7	37.7
85°	19.8	21.8	23.8	25.8	27.8
87.5°	11.9	11.9	13.9	15.9	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)