

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: P561313

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561313
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-50-UNV-93-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3418.0 lumens
Efficiency: N/A
Efficacy: 102.6 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

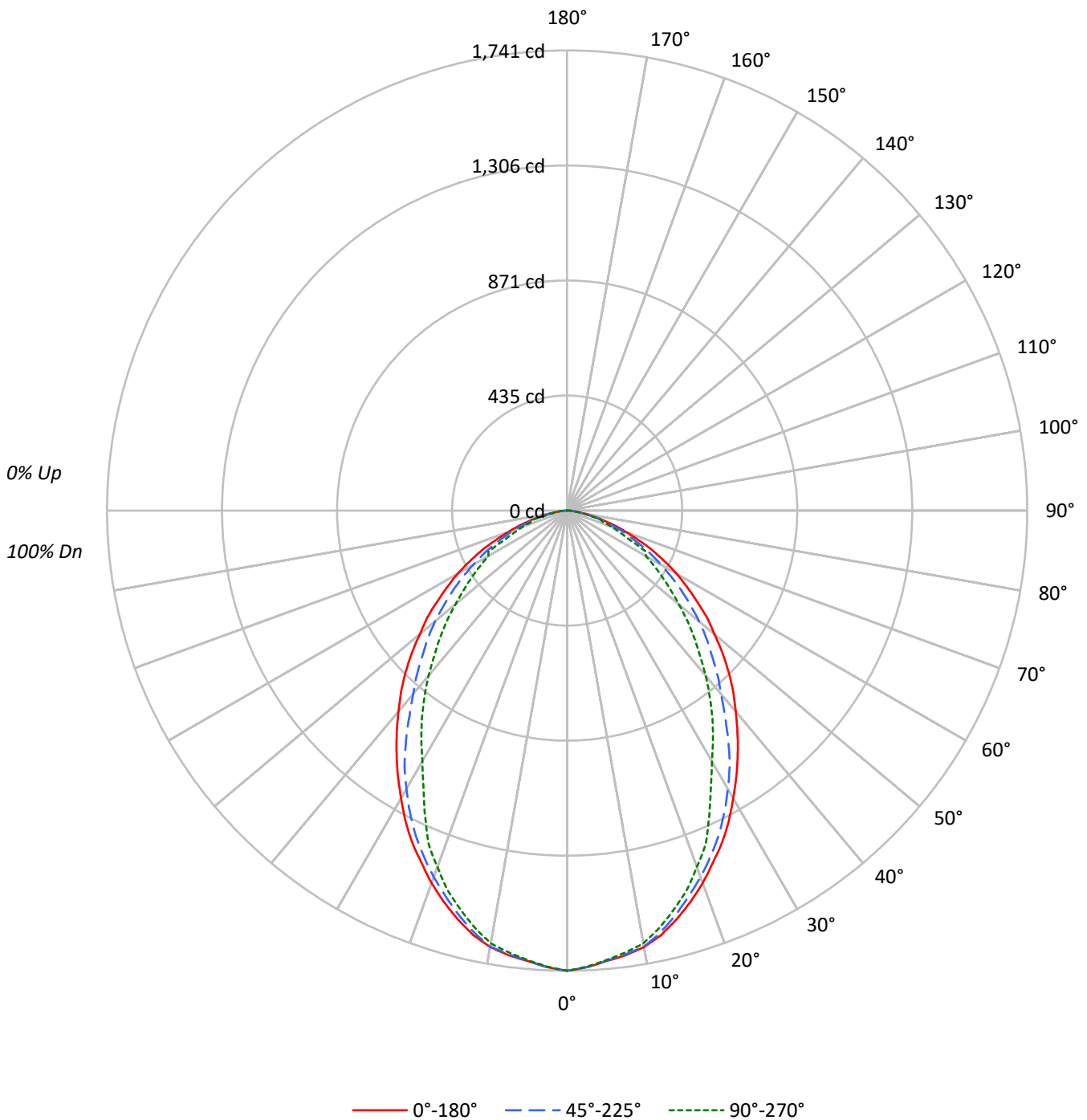
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	4685	4685	4685
5°	4622	4616	4611
10°	4582	4576	4543
15°	4458	4413	4351
20°	4294	4225	4110
25°	4118	4028	3777
30°	3903	3778	3402
35°	3696	3491	3147
40°	3486	3182	2864
45°	3286	2941	2589
50°	3042	2730	2309
55°	2814	2474	2068
60°	2578	2210	1852
65°	2269	1935	1640
70°	1869	1695	1393
75°	1486	1298	1360
80°	998	936	874
85°	621	747	871

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3286 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.1	4.7
10°-20°	444.8	13.0
20°-30°	615.8	18.0
30°-40°	656.6	19.2
40°-50°	599.0	17.5
50°-60°	469.3	13.7
60°-70°	305.8	8.9
70°-80°	135.5	4.0
80°-90°	29.1	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°	1222.6	35.8
0°-40°	1879.3	55.0
0°-60°	2947.5	86.2
0°-90°	3418.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3418.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1741	1741	1741	1741	1741	
5°	1711	1709	1709	1707	1707	162
15°	1600	1600	1584	1568	1562	450
25°	1387	1379	1357	1308	1272	637
35°	1125	1117	1063	982	958	703
45°	864	845	773	708	680	665
55°	600	582	527	465	441	538
65°	356	336	304	310	258	351
75°	143	133	125	119	131	153
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°	1741.1	1741.1	1741.1	1741.1	1741.1
2.5°	1729.0	1729.0	1729.0	1727.0	1727.0
5°	1710.9	1708.9	1708.9	1706.9	1706.9
7.5°	1696.8	1694.8	1692.8	1690.8	1686.7
10°	1676.7	1676.7	1674.7	1664.6	1662.6
12.5°	1644.5	1642.5	1634.4	1620.3	1616.3
15°	1600.2	1600.2	1584.1	1568.0	1561.9
17.5°	1551.9	1549.9	1529.7	1513.6	1505.6
20°	1499.5	1495.5	1475.4	1449.2	1435.1
22.5°	1441.2	1441.2	1417.0	1382.8	1368.7
25°	1386.8	1378.8	1356.6	1308.3	1272.1
27.5°	1324.4	1312.4	1288.2	1219.8	1177.5
30°	1256.0	1250.0	1215.7	1127.2	1095.0
32.5°	1191.6	1181.5	1145.3	1052.7	1026.5
35°	1125.2	1117.1	1062.8	982.3	958.1
37.5°	1058.7	1048.7	980.2	915.8	885.6
40°	992.3	980.2	905.8	847.4	815.2
42.5°	929.9	913.8	841.4	779.0	742.7
45°	863.5	845.4	772.9	708.5	680.3
47.5°	797.1	781.0	714.5	648.1	615.9
50°	726.6	712.5	652.2	585.7	551.5
52.5°	668.3	646.1	587.7	521.3	493.1
55°	599.8	581.7	527.4	465.0	440.8
57.5°	537.4	519.3	469.0	410.6	390.5
60°	479.0	452.9	410.6	360.3	344.2
62.5°	414.6	394.5	358.3	316.0	336.1
65°	356.3	336.1	303.9	310.0	257.6
67.5°	291.9	281.8	253.6	225.4	217.4
70°	237.5	225.4	215.4	185.2	177.1
72.5°	189.2	177.1	163.0	146.9	140.9
75°	142.9	132.8	124.8	118.8	130.8
77.5°	98.6	94.6	88.6	82.5	80.5
80°	64.4	62.4	60.4	58.4	56.4
82.5°	38.2	38.2	38.2	38.2	38.2
85°	20.1	22.1	24.2	26.2	28.2
87.5°	12.1	12.1	14.1	16.1	18.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)