

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: P561327

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561327
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-93-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3267.0 lumens
Efficiency: N/A
Efficacy: 98.1 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

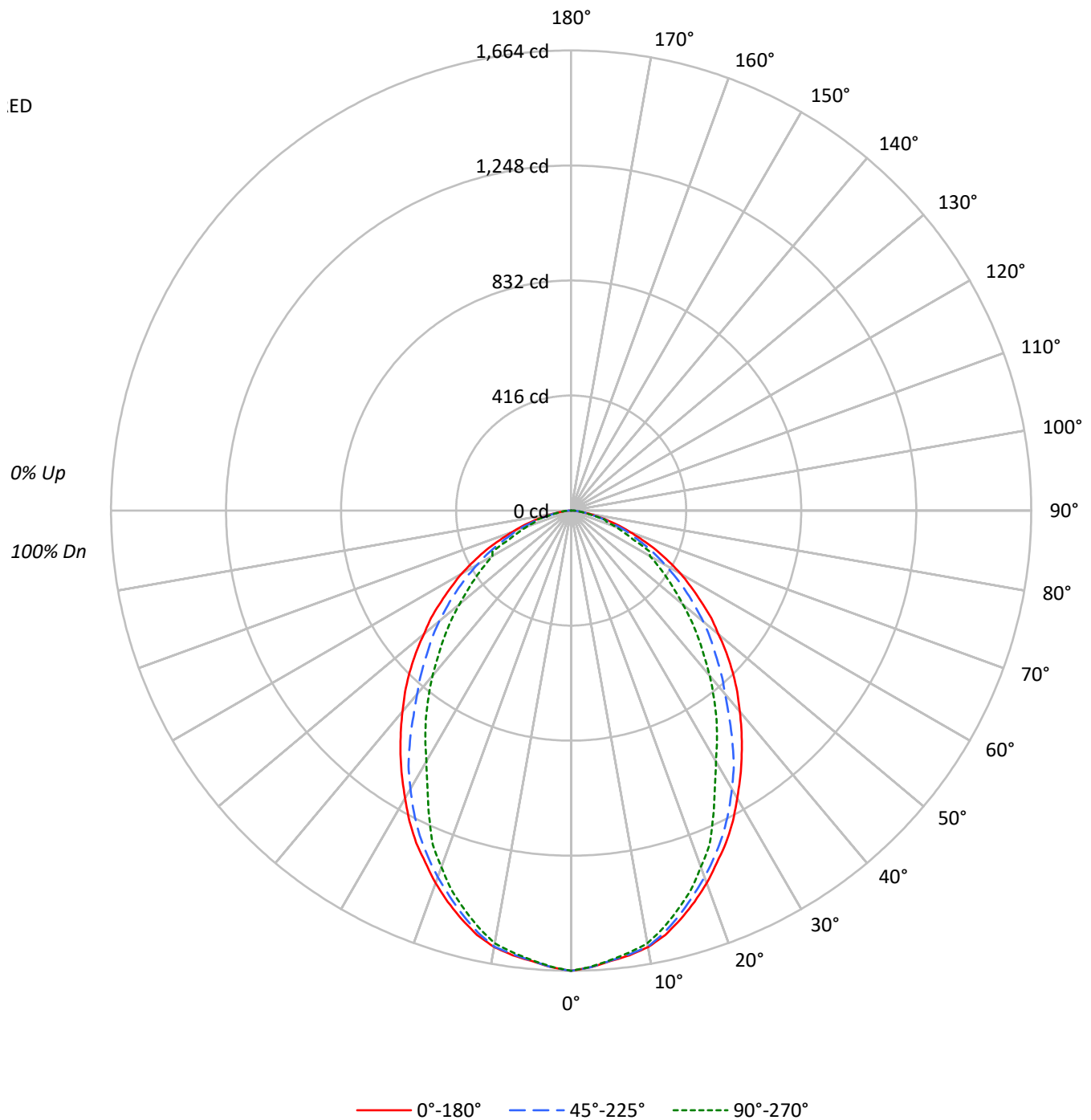
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4478	4478	4478
5°	4417	4412	4407
10°	4379	4374	4342
15°	4261	4218	4159
20°	4105	4038	3928
25°	3936	3850	3610
30°	3730	3611	3252
35°	3533	3337	3008
40°	3332	3041	2737
45°	3141	2812	2475
50°	2907	2609	2207
55°	2690	2365	1977
60°	2464	2112	1771
65°	2168	1850	1568
70°	1786	1620	1332
75°	1420	1240	1301
80°	955	894	835
85°	593	713	831

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3141 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.9	4.7
10°-20°	425.1	13.0
20°-30°	588.6	18.0
30°-40°	627.6	19.2
40°-50°	572.6	17.5
50°-60°	448.6	13.7
60°-70°	292.4	8.9
70°-80°	129.5	4.0
80°-90°	27.8	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°	1168.6	35.8
0°-40°	1796.2	55.0
0°-60°	2817.3	86.2
0°-90°	3267.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3267.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1664	1664	1664	1664	1664	
5°	1635	1633	1633	1632	1632	155
15°	1530	1530	1514	1499	1493	430
25°	1326	1318	1297	1250	1216	609
35°	1076	1068	1016	939	916	672
45°	825	808	739	677	650	636
55°	573	556	504	444	421	514
65°	340	321	290	296	246	336
75°	137	127	119	114	125	146
85°	19	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°	1664.2	1664.2	1664.2	1664.2	1664.2
2.5°	1652.6	1652.6	1652.6	1650.7	1650.7
5°	1635.3	1633.4	1633.4	1631.5	1631.5
7.5°	1621.8	1619.9	1618.0	1616.1	1612.2
10°	1602.6	1602.6	1600.7	1591.1	1589.1
12.5°	1571.8	1569.9	1562.2	1548.7	1544.9
15°	1529.5	1529.5	1514.1	1498.7	1492.9
17.5°	1483.3	1481.4	1462.2	1446.8	1439.1
20°	1433.3	1429.5	1410.2	1385.2	1371.7
22.5°	1377.5	1377.5	1354.4	1321.7	1308.2
25°	1325.6	1317.9	1296.7	1250.5	1215.9
27.5°	1265.9	1254.4	1231.3	1165.9	1125.5
30°	1200.5	1194.7	1162.0	1077.4	1046.6
32.5°	1138.9	1129.3	1094.7	1006.2	981.2
35°	1075.5	1067.8	1015.8	938.9	915.8
37.5°	1012.0	1002.3	936.9	875.4	846.5
40°	948.5	936.9	865.8	810.0	779.2
42.5°	888.8	873.4	804.2	744.5	709.9
45°	825.3	808.0	738.8	677.2	650.3
47.5°	761.9	746.5	683.0	619.5	588.7
50°	694.5	681.1	623.3	559.9	527.1
52.5°	638.7	617.6	561.8	498.3	471.4
55°	573.3	556.0	504.1	444.4	421.3
57.5°	513.7	496.4	448.3	392.5	373.2
60°	457.9	432.9	392.5	344.4	329.0
62.5°	396.3	377.1	342.5	302.1	321.3
65°	340.5	321.3	290.5	296.3	246.3
67.5°	279.0	269.3	242.4	215.5	207.8
70°	227.0	215.5	205.9	177.0	169.3
72.5°	180.8	169.3	155.8	140.4	134.7
75°	136.6	127.0	119.3	113.5	125.1
77.5°	94.3	90.4	84.7	78.9	77.0
80°	61.6	59.6	57.7	55.8	53.9
82.5°	36.6	36.6	36.6	36.6	36.6
85°	19.2	21.2	23.1	25.0	26.9
87.5°	11.5	11.5	13.5	15.4	17.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)