

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: P560814

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560814
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3264.0 lumens
Efficiency: N/A
Efficacy: 75.6 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

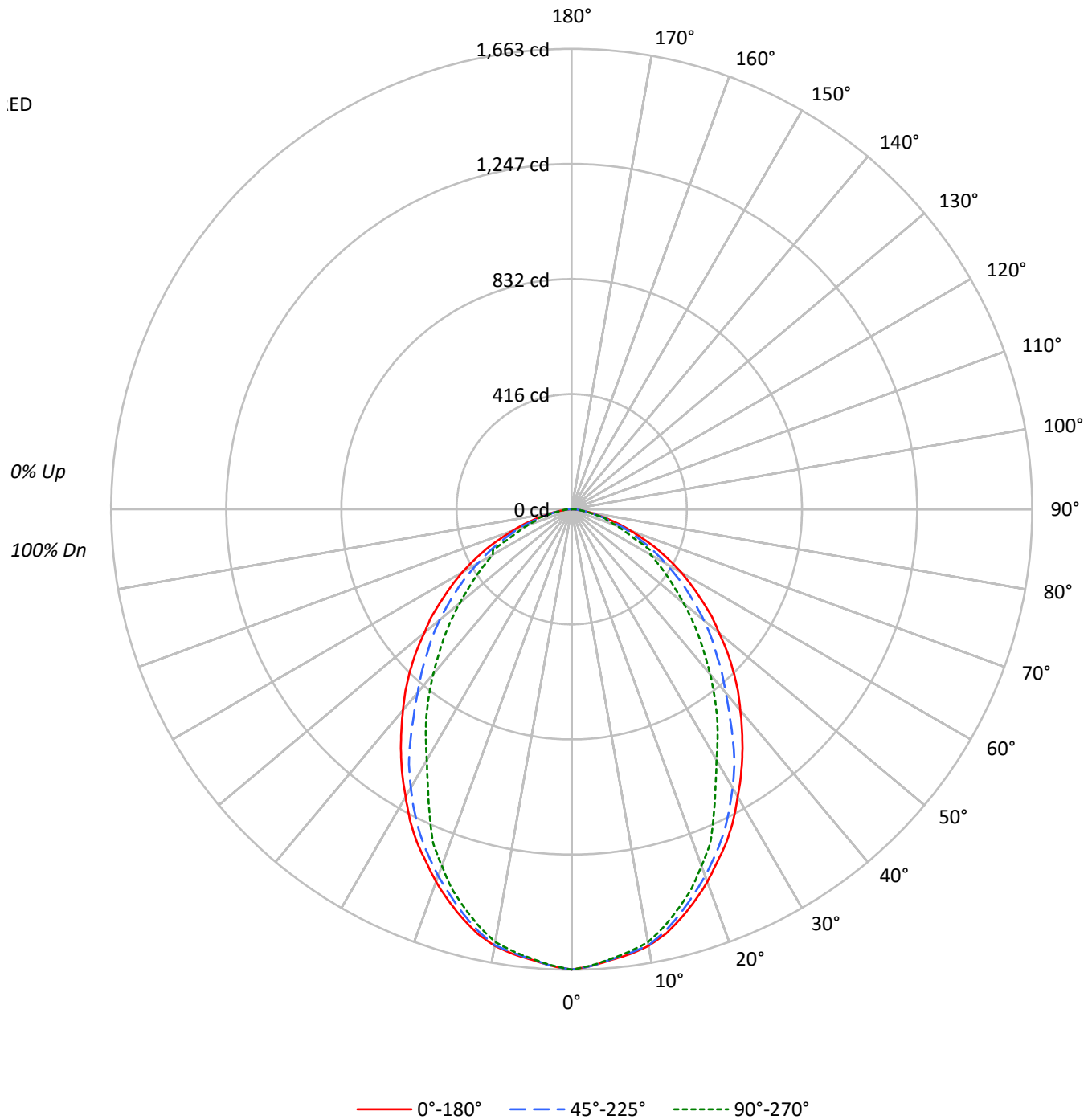
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4474	4474	4474
5°	4413	4408	4403
10°	4375	4370	4338
15°	4257	4214	4155
20°	4101	4035	3925
25°	3932	3847	3607
30°	3727	3608	3249
35°	3530	3334	3006
40°	3329	3039	2735
45°	3138	2809	2473
50°	2905	2607	2205
55°	2687	2363	1975
60°	2462	2110	1769
65°	2166	1848	1566
70°	1784	1618	1330
75°	1419	1239	1299
80°	953	894	834
85°	593	713	831

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3138 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.8	4.7
10°-20°	424.7	13.0
20°-30°	588.0	18.0
30°-40°	627.0	19.2
40°-50°	572.0	17.5
50°-60°	448.1	13.7
60°-70°	292.1	8.9
70°-80°	129.4	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°	1167.6	35.8
0°-40°	1794.6	55.0
0°-60°	2814.8	86.2
0°-90°	3264.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3264.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1663	1663	1663	1663	1663	
5°	1634	1632	1632	1630	1630	155
15°	1528	1528	1513	1497	1492	430
25°	1324	1317	1296	1249	1215	608
35°	1074	1067	1015	938	915	672
45°	825	807	738	677	650	635
55°	573	556	504	444	421	514
65°	340	321	290	296	246	335
75°	136	127	119	113	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°	1662.6	1662.6	1662.6	1662.6	1662.6
2.5°	1651.1	1651.1	1651.1	1649.2	1649.2
5°	1633.8	1631.9	1631.9	1630.0	1630.0
7.5°	1620.4	1618.4	1616.5	1614.6	1610.7
10°	1601.1	1601.1	1599.2	1589.6	1587.7
12.5°	1570.4	1568.5	1560.8	1547.3	1543.5
15°	1528.1	1528.1	1512.7	1497.3	1491.6
17.5°	1482.0	1480.0	1460.8	1445.4	1437.7
20°	1432.0	1428.1	1408.9	1383.9	1370.5
22.5°	1376.2	1376.2	1353.2	1320.5	1307.0
25°	1324.3	1316.7	1295.5	1249.4	1214.8
27.5°	1264.8	1253.2	1230.2	1164.8	1124.4
30°	1199.4	1193.6	1161.0	1076.4	1045.6
32.5°	1137.9	1128.3	1093.7	1005.3	980.3
35°	1074.5	1066.8	1014.9	938.0	914.9
37.5°	1011.0	1001.4	936.1	874.6	845.7
40°	947.6	936.1	865.0	809.2	778.5
42.5°	888.0	872.6	803.4	743.9	709.3
45°	824.6	807.3	738.1	676.6	649.7
47.5°	761.2	745.8	682.4	618.9	588.2
50°	693.9	680.4	622.8	559.3	526.7
52.5°	638.1	617.0	561.3	497.8	470.9
55°	572.8	555.5	503.6	444.0	420.9
57.5°	513.2	495.9	447.9	392.1	372.9
60°	457.5	432.5	392.1	344.1	328.7
62.5°	396.0	376.7	342.1	301.8	321.0
65°	340.2	321.0	290.2	296.0	246.0
67.5°	278.7	269.1	242.2	215.3	207.6
70°	226.8	215.3	205.7	176.8	169.1
72.5°	180.7	169.1	155.7	140.3	134.5
75°	136.5	126.9	119.2	113.4	124.9
77.5°	94.2	90.3	84.6	78.8	76.9
80°	61.5	59.6	57.7	55.7	53.8
82.5°	36.5	36.5	36.5	36.5	36.5
85°	19.2	21.1	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)