

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: P560836

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560836
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-40-UNV-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3183.0 lumens
Efficiency: N/A
Efficacy: 73.7 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

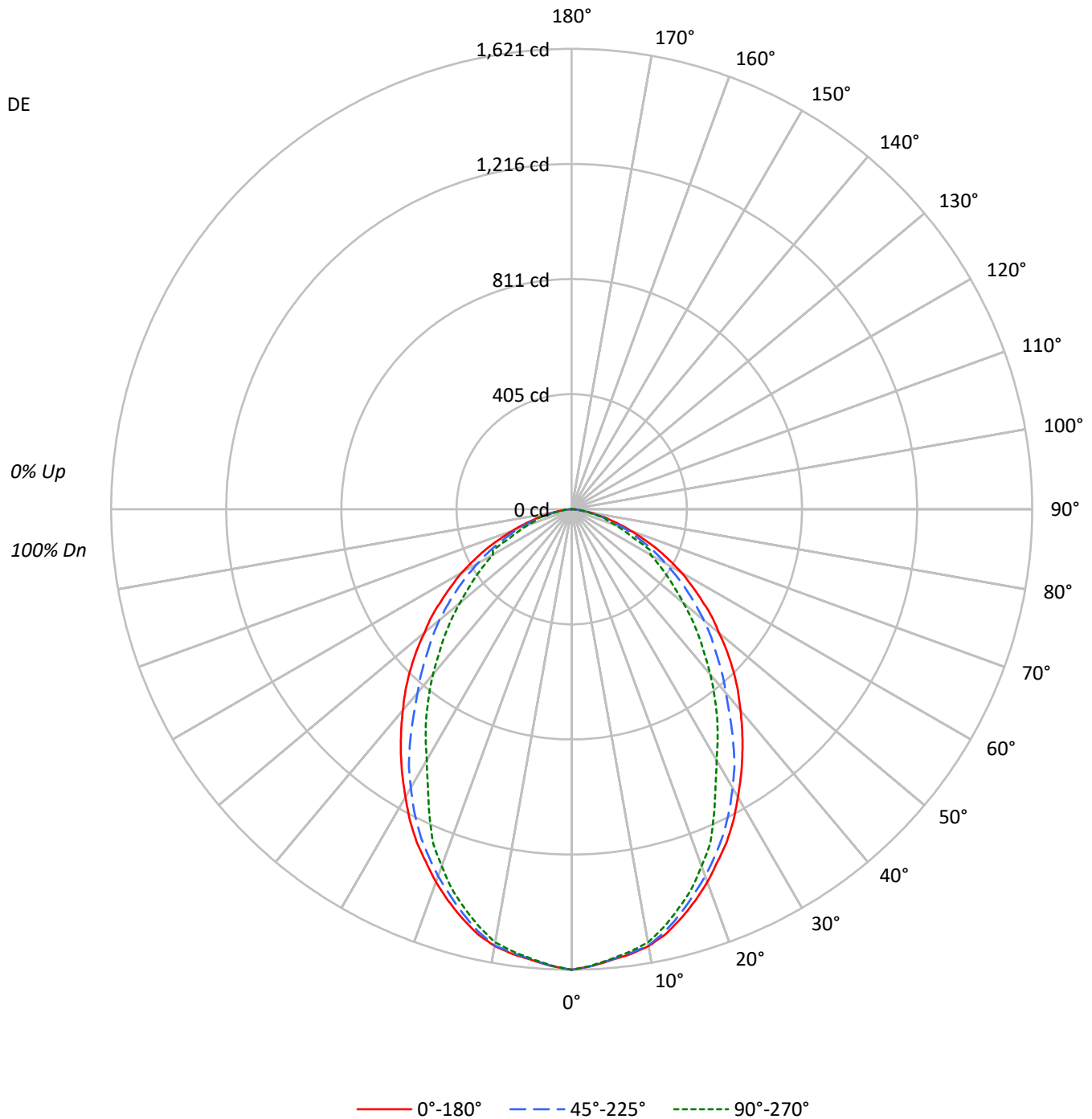
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	4363	4363	4363
5°	4304	4299	4294
10°	4267	4261	4231
15°	4152	4110	4052
20°	3999	3935	3827
25°	3835	3751	3517
30°	3634	3518	3168
35°	3442	3251	2931
40°	3246	2963	2667
45°	3060	2739	2411
50°	2833	2542	2150
55°	2621	2304	1926
60°	2401	2058	1725
65°	2113	1802	1528
70°	1740	1578	1297
75°	1384	1208	1266
80°	930	871	814
85°	577	695	809

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3060 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.9	4.7
10°-20°	414.2	13.0
20°-30°	573.4	18.0
30°-40°	611.5	19.2
40°-50°	557.8	17.5
50°-60°	437.0	13.7
60°-70°	284.8	8.9
70°-80°	126.2	4.0
80°-90°	27.1	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°	1138.6	35.8
0°-40°	1750.0	55.0
0°-60°	2744.9	86.2
0°-90°	3183.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3183.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1621	1621	1621	1621	1621	
5°	1593	1591	1591	1590	1590	151
15°	1490	1490	1475	1460	1455	419
25°	1292	1284	1263	1218	1185	593
35°	1048	1040	990	915	892	655
45°	804	787	720	660	634	619
55°	559	542	491	433	410	501
65°	332	313	283	289	240	327
75°	133	124	116	111	122	143
85°	19	21	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1621.4	1621.4	1621.4	1621.4	1621.4
2.5°	1610.1	1610.1	1610.1	1608.3	1608.3
5°	1593.3	1591.4	1591.4	1589.5	1589.5
7.5°	1580.1	1578.3	1576.4	1574.5	1570.8
10°	1561.4	1561.4	1559.5	1550.1	1548.3
12.5°	1531.4	1529.5	1522.0	1508.9	1505.2
15°	1490.2	1490.2	1475.2	1460.2	1454.6
17.5°	1445.2	1443.3	1424.6	1409.6	1402.1
20°	1396.4	1392.7	1374.0	1349.6	1336.5
22.5°	1342.1	1342.1	1319.6	1287.7	1274.6
25°	1291.5	1284.0	1263.4	1218.4	1184.6
27.5°	1233.4	1222.1	1199.6	1135.9	1096.5
30°	1169.6	1164.0	1132.2	1049.7	1019.7
32.5°	1109.7	1100.3	1066.5	980.3	956.0
35°	1047.8	1040.3	989.7	914.7	892.2
37.5°	985.9	976.6	912.8	852.9	824.7
40°	924.1	912.8	843.5	789.1	759.1
42.5°	866.0	851.0	783.5	725.4	691.7
45°	804.1	787.3	719.8	659.8	633.6
47.5°	742.3	727.3	665.4	603.6	573.6
50°	676.7	663.5	607.3	545.5	513.6
52.5°	622.3	601.7	547.3	485.5	459.2
55°	558.6	541.7	491.1	433.0	410.5
57.5°	500.5	483.6	436.7	382.4	363.6
60°	446.1	421.7	382.4	335.5	320.5
62.5°	386.1	367.4	333.6	294.3	313.0
65°	331.8	313.0	283.0	288.7	239.9
67.5°	271.8	262.4	236.2	209.9	202.4
70°	221.2	209.9	200.6	172.4	164.9
72.5°	176.2	164.9	151.8	136.8	131.2
75°	133.1	123.7	116.2	110.6	121.8
77.5°	91.8	88.1	82.5	76.9	75.0
80°	60.0	58.1	56.2	54.4	52.5
82.5°	35.6	35.6	35.6	35.6	35.6
85°	18.7	20.6	22.5	24.4	26.2
87.5°	11.2	11.2	13.1	15.0	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)