

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: P590183

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-82-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590183
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2HI-40-UNV-82-86-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4357.0 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

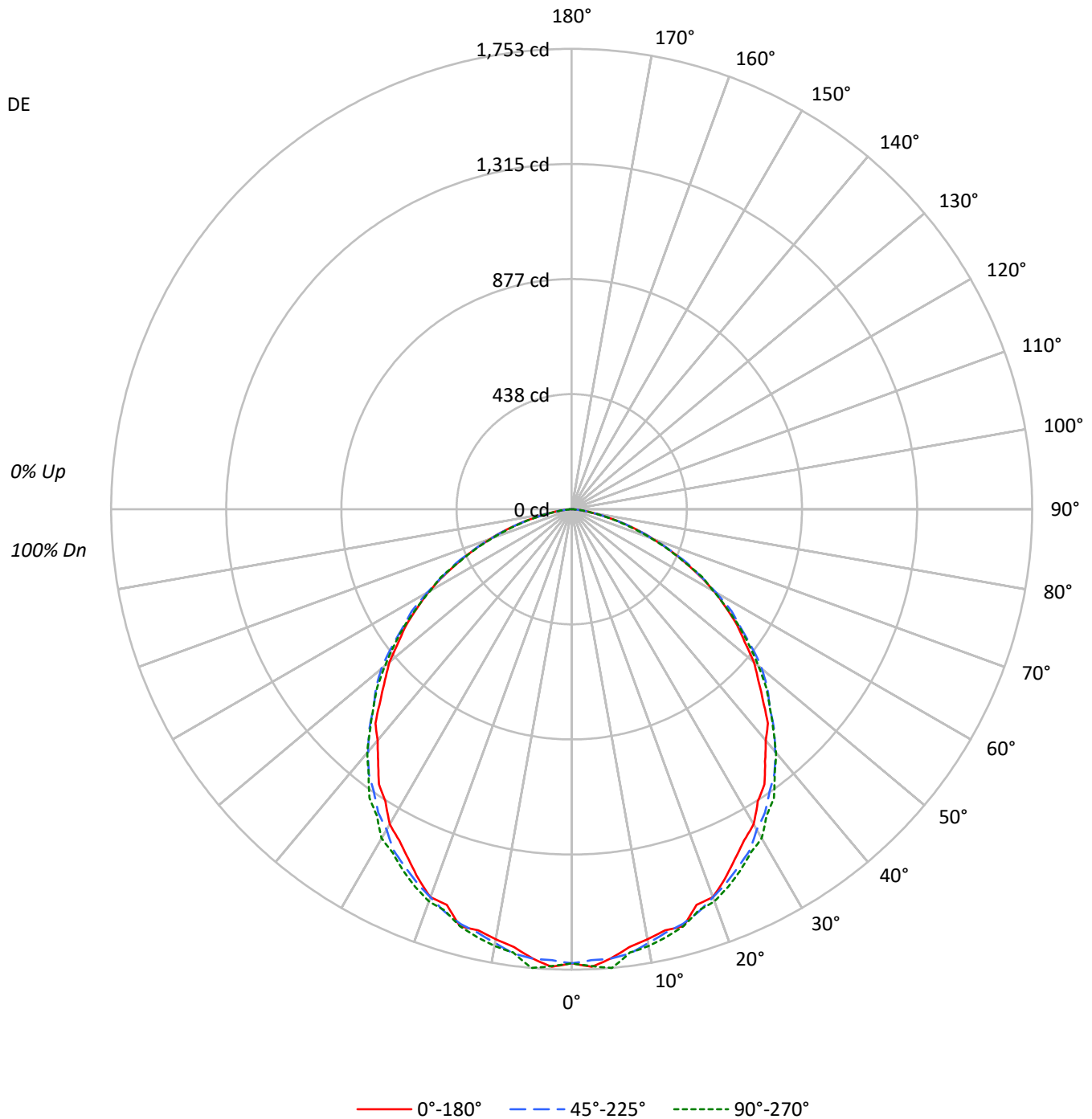
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4652	4652	4652
5°	4637	4638	4736
10°	4543	4582	4615
15°	4579	4554	4579
20°	4501	4501	4549
25°	4363	4458	4507
30°	4303	4378	4495
35°	4202	4312	4408
40°	4038	4233	4251
45°	3916	4055	4061
50°	3787	3958	3882
55°	3609	3679	3653
60°	3374	3408	3347
65°	3009	3086	2988
70°	2581	2590	2519
75°	2044	2040	1961
80°	1370	1331	1280
85°	744	738	689

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4160 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.6	3.7
10°-20°	460.9	10.6
20°-30°	690.5	15.8
30°-40°	818.4	18.8
40°-50°	819.9	18.8
50°-60°	695.9	16.0
60°-70°	469.2	10.8
70°-80°	206.2	4.7
80°-90°	33.5	0.8
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°	1314.0	30.2
0°-40°	2132.3	48.9
0°-60°	3648.1	83.7
0°-90°	4357.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4357.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1729	1729	1729	1729	1729	
5°	1716	1712	1717	1712	1753	162
15°	1644	1624	1635	1643	1644	458
25°	1469	1477	1502	1521	1518	679
35°	1279	1283	1312	1343	1342	794
45°	1029	1048	1066	1093	1067	796
55°	769	764	784	779	779	684
65°	472	466	485	466	469	470
75°	197	193	196	182	189	211
85°	24	23	24	23	22	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1728.7	1728.7	1728.7	1728.7	1728.7
2.5°	1743.7	1730.5	1718.3	1732.5	1741.2
5°	1716.5	1712.5	1717.1	1712.0	1753.3
7.5°	1681.2	1696.6	1705.5	1700.0	1702.4
10°	1662.5	1657.1	1677.0	1690.8	1688.8
12.5°	1642.4	1650.4	1651.5	1666.5	1667.8
15°	1643.5	1624.5	1634.6	1643.0	1643.7
17.5°	1579.6	1600.2	1607.1	1626.5	1602.4
20°	1571.8	1556.9	1571.8	1591.7	1588.6
22.5°	1523.8	1507.1	1539.2	1556.9	1555.8
25°	1469.4	1477.4	1501.5	1521.2	1518.0
27.5°	1421.6	1431.0	1465.4	1492.4	1475.0
30°	1384.8	1380.1	1409.1	1433.2	1446.6
32.5°	1318.9	1335.9	1369.8	1393.7	1381.0
35°	1279.0	1282.8	1312.5	1342.8	1341.9
37.5°	1209.1	1226.8	1268.5	1277.0	1269.2
40°	1149.5	1167.2	1204.9	1214.0	1210.2
42.5°	1105.6	1108.7	1141.0	1151.5	1134.8
45°	1029.0	1048.2	1065.6	1093.1	1067.2
47.5°	963.8	972.7	1010.2	1017.6	1004.0
50°	904.7	907.8	945.5	936.4	927.4
52.5°	830.3	843.5	864.7	862.9	852.4
55°	769.2	764.0	784.1	778.8	778.6
57.5°	695.7	704.7	721.2	712.7	699.1
60°	627.0	627.2	633.2	623.6	621.9
62.5°	550.4	553.1	554.4	542.6	561.8
65°	472.5	466.3	484.6	466.1	469.2
67.5°	400.9	404.0	402.2	390.6	395.1
70°	328.1	332.1	329.2	316.1	320.1
72.5°	261.6	256.7	259.8	243.3	250.9
75°	196.6	192.6	196.2	182.4	188.6
77.5°	133.9	137.0	134.8	127.5	131.7
80°	88.4	85.9	85.9	81.7	82.6
82.5°	51.6	49.1	48.4	47.1	49.1
85°	24.1	23.4	23.9	23.2	22.3
87.5°	8.7	8.9	8.9	8.5	8.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)