

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: P590174

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-81-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590174
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-81-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4502.0 lumens
Efficiency: N/A
Efficacy: 104.2 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

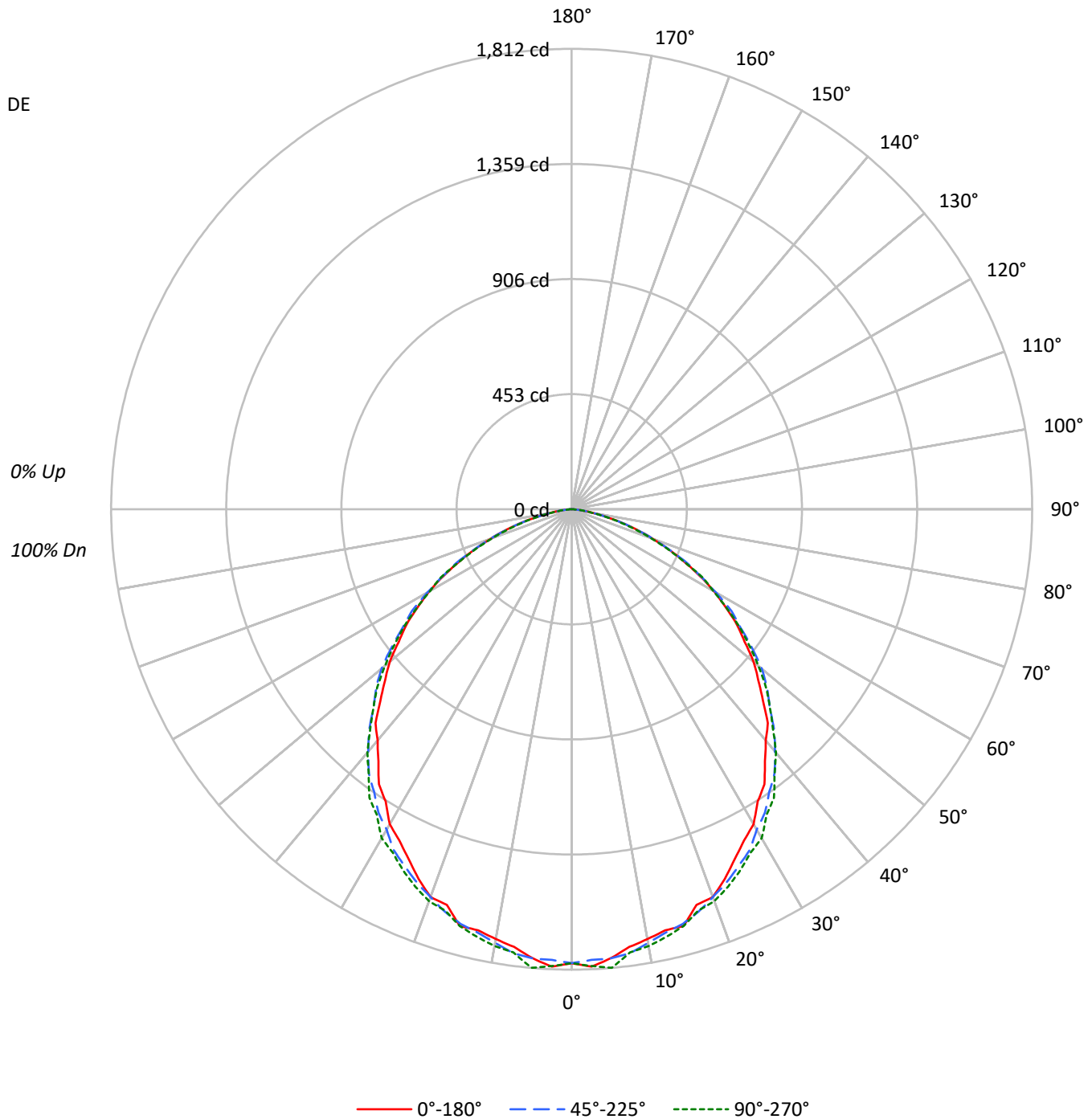
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4807	4807	4807
5°	4791	4793	4894
10°	4694	4735	4768
15°	4731	4705	4732
20°	4651	4651	4700
25°	4508	4607	4657
30°	4446	4524	4645
35°	4341	4455	4555
40°	4173	4373	4393
45°	4046	4190	4196
50°	3913	4090	4012
55°	3729	3801	3774
60°	3487	3521	3458
65°	3109	3188	3087
70°	2667	2677	2602
75°	2113	2108	2026
80°	1415	1376	1322
85°	769	763	713

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4298 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.0	3.7
10°-20°	476.2	10.6
20°-30°	713.5	15.8
30°-40°	845.6	18.8
40°-50°	847.2	18.8
50°-60°	719.1	16.0
60°-70°	484.8	10.8
70°-80°	213.0	4.7
80°-90°	34.6	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°	1357.7	30.2
0°-40°	2203.3	48.9
0°-60°	3769.5	83.7
0°-90°	4502.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4502.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1786	1786	1786	1786	1786	
5°	1774	1769	1774	1769	1812	167
15°	1698	1679	1689	1698	1698	473
25°	1518	1527	1552	1572	1569	702
35°	1322	1326	1356	1388	1387	821
45°	1063	1083	1101	1129	1103	822
55°	795	790	810	805	804	707
65°	488	482	501	482	485	486
75°	203	199	203	188	195	218
85°	25	24	25	24	23	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1786.3	1786.3	1786.3	1786.3	1786.3
2.5°	1801.7	1788.1	1775.4	1790.2	1799.2
5°	1773.6	1769.4	1774.3	1769.0	1811.6
7.5°	1737.2	1753.1	1762.3	1756.5	1759.1
10°	1717.8	1712.2	1732.8	1747.1	1745.0
12.5°	1697.0	1705.3	1706.5	1721.9	1723.3
15°	1698.2	1678.6	1689.0	1697.7	1698.4
17.5°	1632.2	1653.4	1660.6	1680.6	1655.7
20°	1624.1	1608.7	1624.1	1644.7	1641.4
22.5°	1574.6	1557.3	1590.5	1608.7	1607.5
25°	1518.3	1526.6	1551.5	1571.8	1568.6
27.5°	1468.9	1478.6	1514.1	1542.0	1524.0
30°	1430.9	1426.0	1456.0	1480.9	1494.8
32.5°	1362.8	1380.4	1415.4	1440.1	1426.9
35°	1321.5	1325.5	1356.1	1387.5	1386.6
37.5°	1249.4	1267.6	1310.7	1319.5	1311.4
40°	1187.8	1206.0	1245.0	1254.4	1250.5
42.5°	1142.3	1145.6	1179.0	1189.9	1172.6
45°	1063.2	1083.1	1101.1	1129.4	1102.7
47.5°	995.9	1005.1	1043.9	1051.5	1037.4
50°	934.8	938.0	977.0	967.5	958.3
52.5°	858.0	871.6	893.5	891.6	880.8
55°	794.8	789.5	810.2	804.7	804.5
57.5°	718.9	728.1	745.2	736.4	722.4
60°	647.9	648.1	654.3	644.4	642.6
62.5°	568.7	571.5	572.9	560.7	580.5
65°	488.3	481.8	500.7	481.6	484.8
67.5°	414.2	417.5	415.6	403.6	408.2
70°	339.0	343.2	340.2	326.6	330.7
72.5°	270.3	265.2	268.5	251.4	259.2
75°	203.2	199.0	202.7	188.4	194.9
77.5°	138.4	141.6	139.3	131.7	136.1
80°	91.3	88.8	88.8	84.4	85.3
82.5°	53.3	50.7	50.0	48.7	50.7
85°	24.9	24.2	24.7	24.0	23.1
87.5°	9.0	9.2	9.2	8.8	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)