

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: P590212

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-81-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590212
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-50-UNV-81-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4464.0 lumens
Efficiency: N/A
Efficacy: 103.3 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

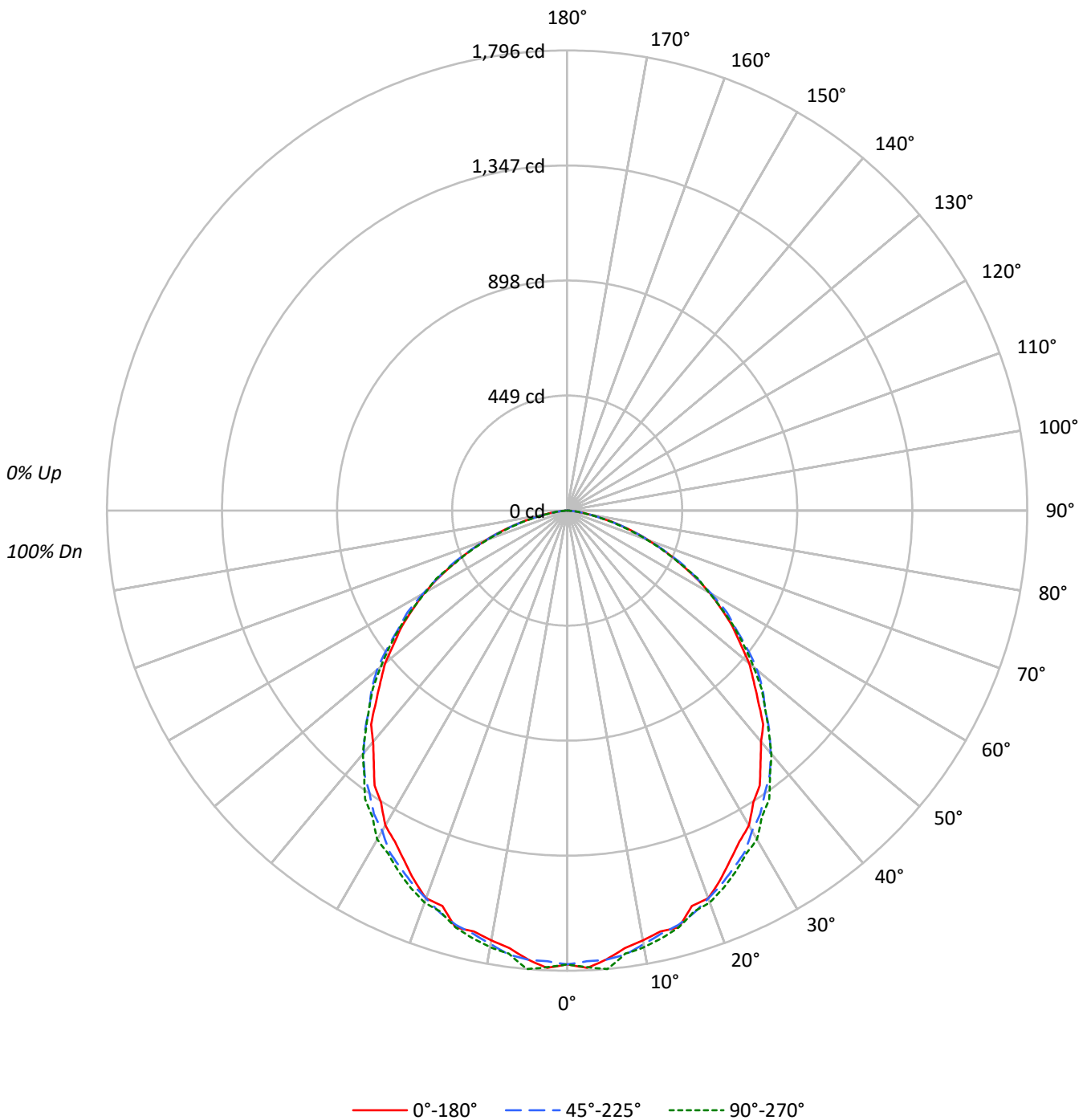
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4766	4766	4766
5°	4750	4752	4853
10°	4654	4695	4728
15°	4691	4666	4692
20°	4612	4612	4661
25°	4470	4568	4618
30°	4409	4486	4605
35°	4305	4417	4517
40°	4137	4337	4356
45°	4012	4155	4161
50°	3880	4055	3978
55°	3697	3769	3742
60°	3457	3492	3429
65°	3082	3161	3061
70°	2645	2654	2580
75°	2095	2090	2009
80°	1404	1364	1311
85°	763	756	707

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4262 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.6	3.7
10°-20°	472.2	10.6
20°-30°	707.4	15.8
30°-40°	838.5	18.8
40°-50°	840.0	18.8
50°-60°	713.0	16.0
60°-70°	480.7	10.8
70°-80°	211.2	4.7
80°-90°	34.3	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°	1346.2	30.2
0°-40°	2184.7	48.9
0°-60°	3737.7	83.7
0°-90°	4464.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4464.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1771	1771	1771	1771	1771	
5°	1759	1754	1759	1754	1796	166
15°	1684	1664	1675	1683	1684	469
25°	1506	1514	1538	1558	1555	696
35°	1310	1314	1345	1376	1375	814
45°	1054	1074	1092	1120	1093	816
55°	788	783	803	798	798	701
65°	484	478	496	478	481	481
75°	202	197	201	187	193	216
85°	25	24	24	24	23	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1771.2	1771.2	1771.2	1771.2	1771.2
2.5°	1786.5	1773.0	1760.5	1775.1	1784.0
5°	1758.6	1754.5	1759.3	1754.1	1796.4
7.5°	1722.5	1738.3	1747.4	1741.7	1744.2
10°	1703.3	1697.8	1718.1	1732.3	1730.3
12.5°	1682.7	1690.9	1692.1	1707.4	1708.8
15°	1683.8	1664.4	1674.7	1683.4	1684.1
17.5°	1618.4	1639.5	1646.6	1666.5	1641.8
20°	1610.4	1595.1	1610.4	1630.8	1627.6
22.5°	1561.3	1544.1	1577.0	1595.1	1594.0
25°	1505.5	1513.7	1538.4	1558.5	1555.3
27.5°	1456.5	1466.1	1501.3	1529.0	1511.2
30°	1418.8	1414.0	1443.7	1468.4	1482.1
32.5°	1351.3	1368.7	1403.5	1427.9	1414.9
35°	1310.4	1314.3	1344.7	1375.8	1374.9
37.5°	1238.8	1256.9	1299.6	1308.3	1300.3
40°	1177.8	1195.8	1234.5	1243.8	1240.0
42.5°	1132.7	1135.9	1169.1	1179.8	1162.7
45°	1054.3	1073.9	1091.8	1119.9	1093.4
47.5°	987.5	996.6	1035.1	1042.6	1028.6
50°	926.9	930.1	968.7	959.4	950.2
52.5°	850.7	864.2	885.9	884.1	873.4
55°	788.1	782.8	803.4	797.9	797.7
57.5°	712.8	722.0	738.9	730.2	716.3
60°	642.4	642.6	648.8	639.0	637.1
62.5°	563.9	566.7	568.1	555.9	575.6
65°	484.1	477.7	496.5	477.5	480.7
67.5°	410.7	413.9	412.1	400.2	404.8
70°	336.2	340.3	337.3	323.8	327.9
72.5°	268.0	263.0	266.2	249.3	257.0
75°	201.5	197.4	201.0	186.8	193.2
77.5°	137.2	140.4	138.1	130.6	134.9
80°	90.6	88.0	88.0	83.7	84.6
82.5°	52.8	50.3	49.6	48.3	50.3
85°	24.7	24.0	24.5	23.8	22.9
87.5°	8.9	9.1	9.1	8.7	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)