

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: P590368

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-81-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590368
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-LD4-2STD-40-UNV-81-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3511.0 lumens
Efficiency: N/A
Efficacy: 105.4 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

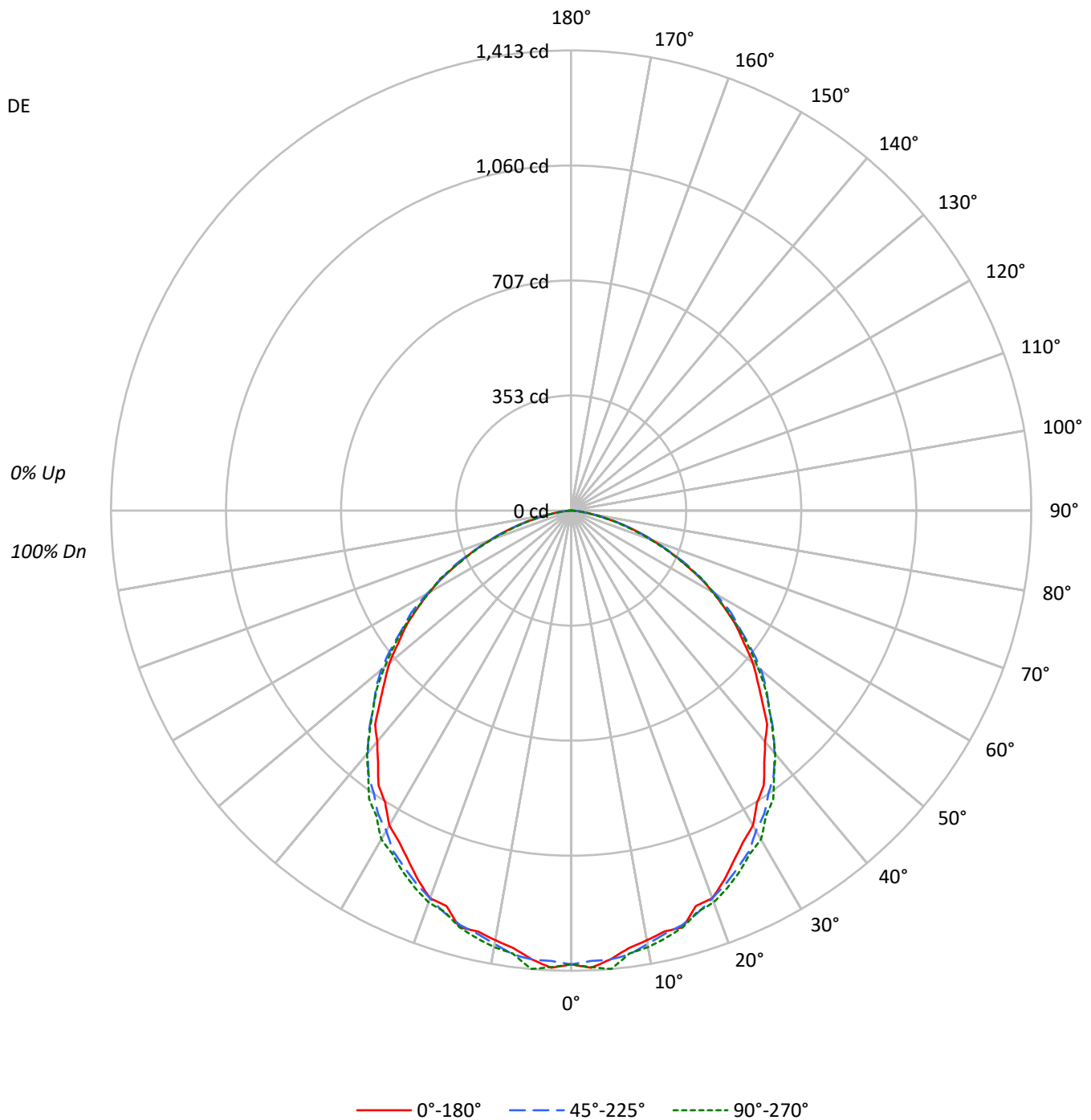
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86				86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73				73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62				62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53				53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46				46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41				41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36				36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32				32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29				29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26				26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3749	3749	3749
5°	3736	3738	3817
10°	3661	3692	3719
15°	3690	3670	3690
20°	3627	3627	3666
25°	3516	3593	3632
30°	3467	3528	3622
35°	3386	3474	3552
40°	3254	3411	3426
45°	3156	3268	3272
50°	3052	3190	3129
55°	2908	2965	2943
60°	2719	2746	2697
65°	2425	2486	2408
70°	2080	2087	2029
75°	1648	1644	1580
80°	1103	1072	1032
85°	599	593	556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3352 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.0	3.7
10°-20°	371.4	10.6
20°-30°	556.4	15.8
30°-40°	659.4	18.8
40°-50°	660.7	18.8
50°-60°	560.8	16.0
60°-70°	378.1	10.8
70°-80°	166.1	4.7
80°-90°	27.0	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°	1058.8	30.2
0°-40°	1718.3	48.9
0°-60°	2939.8	83.7
0°-90°	3511.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3511.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1393	1393	1393	1393	1393	
5°	1383	1380	1384	1380	1413	130
15°	1324	1309	1317	1324	1324	369
25°	1184	1190	1210	1226	1223	547
35°	1031	1034	1058	1082	1081	640
45°	829	845	859	881	860	641
55°	620	616	632	628	627	551
65°	381	376	390	376	378	379
75°	158	155	158	147	152	170
85°	19	19	19	19	18	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1393.1	1393.1	1393.1	1393.1	1393.1
2.5°	1405.1	1394.5	1384.6	1396.1	1403.1
5°	1383.2	1379.9	1383.7	1379.6	1412.9
7.5°	1354.8	1367.2	1374.4	1369.9	1371.9
10°	1339.7	1335.3	1351.3	1362.5	1360.9
12.5°	1323.5	1329.9	1330.8	1342.9	1344.0
15°	1324.4	1309.1	1317.2	1324.0	1324.5
17.5°	1272.9	1289.5	1295.0	1310.7	1291.3
20°	1266.6	1254.6	1266.6	1282.6	1280.1
22.5°	1228.0	1214.5	1240.4	1254.6	1253.7
25°	1184.1	1190.5	1210.0	1225.8	1223.3
27.5°	1145.6	1153.1	1180.8	1202.6	1188.6
30°	1115.9	1112.1	1135.5	1154.9	1165.7
32.5°	1062.8	1076.5	1103.8	1123.1	1112.8
35°	1030.6	1033.7	1057.6	1082.1	1081.4
37.5°	974.3	988.6	1022.2	1029.0	1022.7
40°	926.3	940.5	970.9	978.3	975.2
42.5°	890.9	893.4	919.5	927.9	914.4
45°	829.2	844.7	858.7	880.8	859.9
47.5°	776.7	783.9	814.1	820.0	809.0
50°	729.0	731.5	761.9	754.5	747.4
52.5°	669.1	679.7	696.8	695.4	686.9
55°	619.8	615.7	631.9	627.6	627.4
57.5°	560.6	567.8	581.2	574.3	563.3
60°	505.2	505.4	510.3	502.6	501.1
62.5°	443.6	445.7	446.8	437.3	452.7
65°	380.8	375.7	390.5	375.6	378.1
67.5°	323.0	325.6	324.1	314.8	318.4
70°	264.4	267.6	265.3	254.7	257.9
72.5°	210.8	206.8	209.4	196.1	202.2
75°	158.5	155.2	158.1	147.0	152.0
77.5°	107.9	110.4	108.6	102.7	106.1
80°	71.2	69.2	69.2	65.8	66.6
82.5°	41.5	39.6	39.0	38.0	39.6
85°	19.4	18.9	19.2	18.7	18.0
87.5°	7.0	7.2	7.2	6.8	6.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)