

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: P589991

Luminaire Tested: FSR-24-2-LD4-1LO-40-UNV-82-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P589991
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-LD4-1LO-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

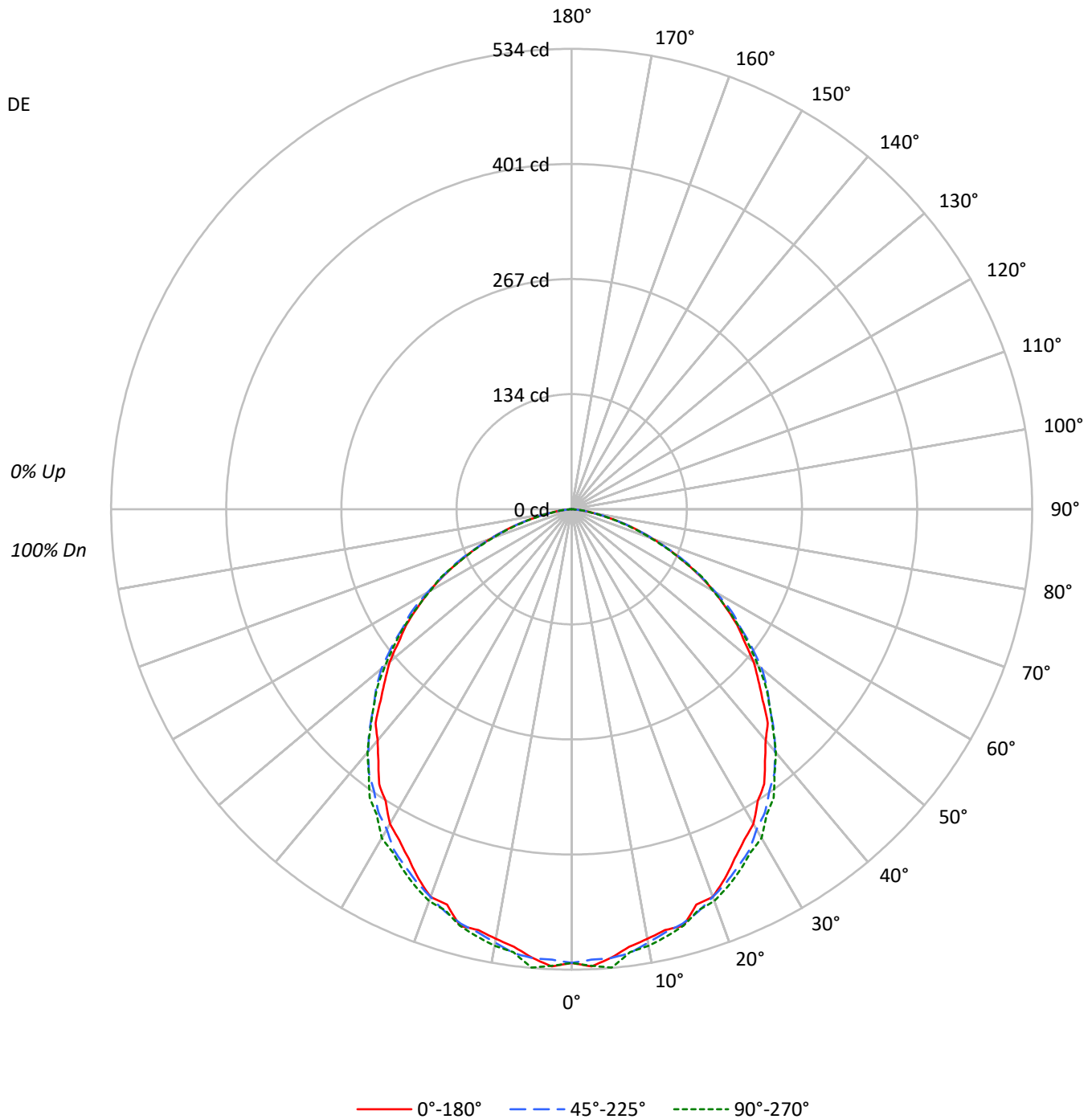
Lumens per Lamp: N/A
Luminaire Lumens: 1326.0 lumens
Efficiency: N/A
Efficacy: 113.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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°	1416	1416	1416
5°	1411	1412	1441
10°	1382	1395	1405
15°	1394	1386	1394
20°	1370	1370	1385
25°	1328	1357	1372
30°	1309	1332	1368
35°	1279	1312	1342
40°	1229	1288	1294
45°	1192	1234	1236
50°	1153	1205	1182
55°	1098	1119	1111
60°	1027	1037	1019
65°	916	939	909
70°	786	788	766
75°	622	621	597
80°	417	406	389
85°	225	225	210

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 1266 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.5	3.7
10°-20°	140.3	10.6
20°-30°	210.1	15.8
30°-40°	249.1	18.8
40°-50°	249.5	18.8
50°-60°	211.8	16.0
60°-70°	142.8	10.8
70°-80°	62.7	4.7
80°-90°	10.2	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°	399.9	30.2
0°-40°	649.0	48.9
0°-60°	1110.3	83.7
0°-90°	1326.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1326.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	526	526	526	526	526	
5°	522	521	523	521	534	49
15°	500	494	498	500	500	139
25°	447	450	457	463	462	207
35°	389	390	399	409	408	242
45°	313	319	324	333	325	242
55°	234	232	239	237	237	208
65°	144	142	148	142	143	143
75°	60	59	60	56	57	64
85°	7	7	7	7	7	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	526.1	526.1	526.1	526.1	526.1
2.5°	530.7	526.7	522.9	527.3	529.9
5°	522.4	521.2	522.6	521.0	533.6
7.5°	511.7	516.3	519.1	517.4	518.1
10°	505.9	504.3	510.4	514.6	514.0
12.5°	499.8	502.3	502.6	507.2	507.6
15°	500.2	494.4	497.5	500.0	500.2
17.5°	480.7	487.0	489.1	495.0	487.7
20°	478.4	473.8	478.4	484.4	483.5
22.5°	463.8	458.7	468.5	473.8	473.5
25°	447.2	449.6	457.0	462.9	462.0
27.5°	432.7	435.5	446.0	454.2	448.9
30°	421.4	420.0	428.8	436.2	440.3
32.5°	401.4	406.6	416.9	424.2	420.3
35°	389.2	390.4	399.4	408.7	408.4
37.5°	368.0	373.3	386.1	388.6	386.3
40°	349.8	355.2	366.7	369.5	368.3
42.5°	336.5	337.4	347.3	350.5	345.4
45°	313.2	319.0	324.3	332.7	324.8
47.5°	293.3	296.0	307.5	309.7	305.6
50°	275.3	276.3	287.8	285.0	282.3
52.5°	252.7	256.7	263.2	262.6	259.4
55°	234.1	232.5	238.6	237.0	236.9
57.5°	211.7	214.5	219.5	216.9	212.8
60°	190.8	190.9	192.7	189.8	189.3
62.5°	167.5	168.3	168.7	165.1	171.0
65°	143.8	141.9	147.5	141.8	142.8
67.5°	122.0	123.0	122.4	118.9	120.2
70°	99.9	101.1	100.2	96.2	97.4
72.5°	79.6	78.1	79.1	74.0	76.4
75°	59.8	58.6	59.7	55.5	57.4
77.5°	40.8	41.7	41.0	38.8	40.1
80°	26.9	26.2	26.2	24.9	25.1
82.5°	15.7	14.9	14.7	14.3	14.9
85°	7.3	7.1	7.3	7.1	6.8
87.5°	2.6	2.7	2.7	2.6	2.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)