

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: P590302

Luminaire Tested: FSR-24-2-LD4-2LO-50-UNV-81-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590302
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-LD4-2LO-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2787.0 lumens
Efficiency: N/A
Efficacy: 119.1 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

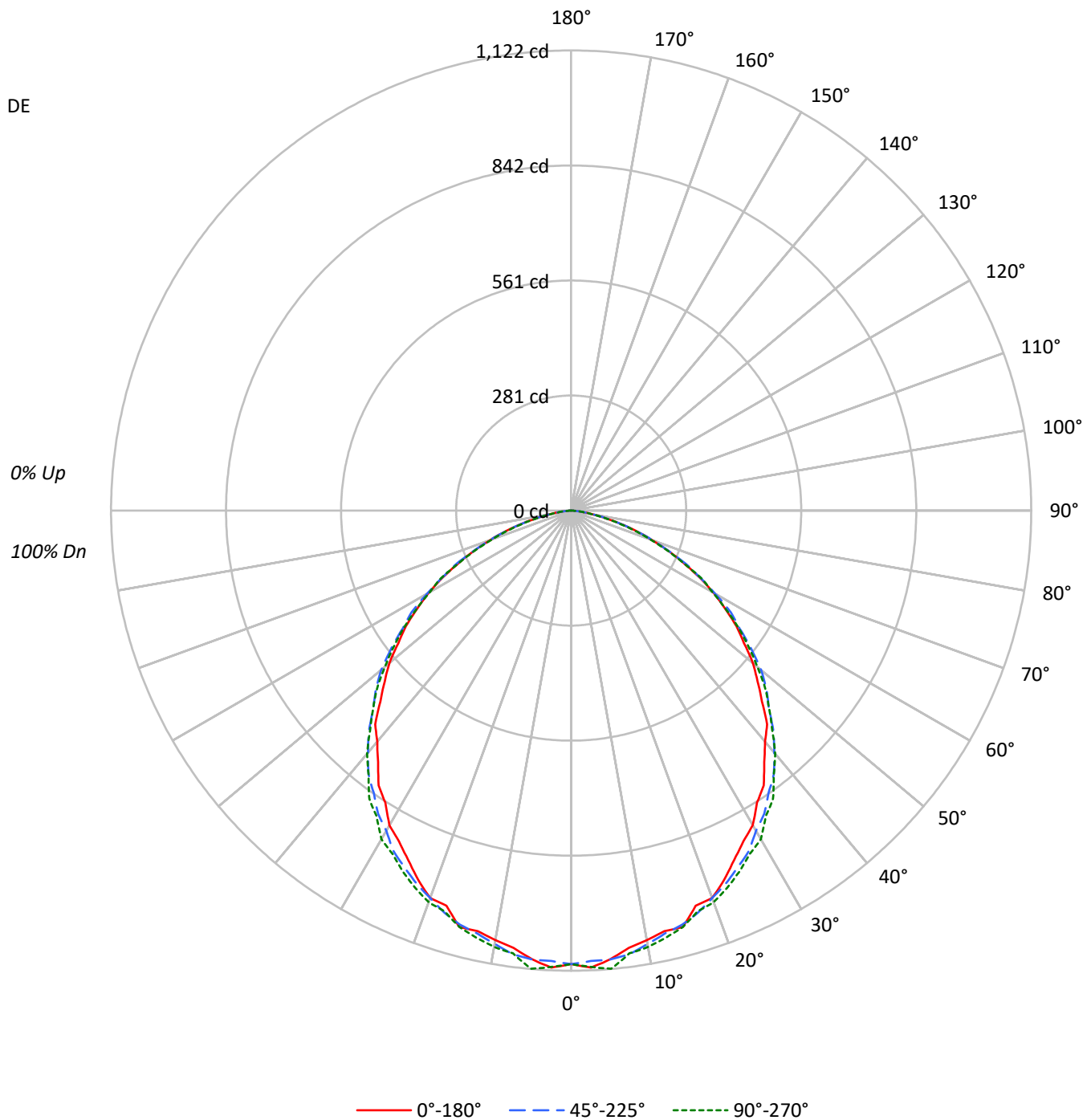
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2976	2976	2976
5°	2966	2967	3029
10°	2906	2931	2952
15°	2929	2913	2929
20°	2879	2879	2910
25°	2791	2852	2883
30°	2752	2801	2875
35°	2688	2758	2820
40°	2583	2707	2719
45°	2505	2594	2598
50°	2423	2532	2483
55°	2308	2353	2336
60°	2159	2180	2141
65°	1925	1974	1911
70°	1651	1657	1611
75°	1308	1305	1254
80°	876	852	818
85°	475	472	442

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 2661 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.0	3.7
10°-20°	294.8	10.6
20°-30°	441.7	15.8
30°-40°	523.5	18.8
40°-50°	524.4	18.8
50°-60°	445.2	16.0
60°-70°	300.1	10.8
70°-80°	131.9	4.7
80°-90°	21.4	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°	840.5	30.2
0°-40°	1364.0	48.9
0°-60°	2333.6	83.7
0°-90°	2787.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2787.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1106	1106	1106	1106	1106	
5°	1098	1095	1098	1095	1122	104
15°	1051	1039	1046	1051	1051	293
25°	940	945	960	973	971	435
35°	818	820	840	859	858	508
45°	658	670	682	699	683	509
55°	492	489	502	498	498	438
65°	302	298	310	298	300	301
75°	126	123	126	117	121	135
85°	15	15	15	15	14	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1105.8	1105.8	1105.8	1105.8	<i>1105.8</i>
2.5°	1115.4	1107.0	1099.1	1108.2	<i>1113.8</i>
5°	<i>1098.0</i>	<i>1095.4</i>	<i>1098.4</i>	<i>1095.1</i>	<i>1121.5</i>
7.5°	1075.4	1085.3	1091.0	1087.4	<i>1089.0</i>
10°	1063.4	1060.0	1072.7	1081.5	<i>1080.3</i>
12.5°	1050.6	1055.7	1056.4	1066.0	<i>1066.8</i>
15°	1051.3	1039.1	1045.6	1051.0	<i>1051.4</i>
17.5°	1010.4	1023.6	1028.0	1040.4	<i>1025.0</i>
20°	1005.4	995.9	1005.4	1018.1	<i>1016.1</i>
22.5°	974.7	964.0	984.6	995.9	<i>995.2</i>
25°	939.9	945.0	960.5	973.0	<i>971.0</i>
27.5°	909.3	915.3	937.3	954.6	<i>943.5</i>
30°	885.8	882.8	901.4	916.8	<i>925.3</i>
32.5°	843.7	854.5	876.2	891.5	<i>883.4</i>
35°	818.1	820.5	839.5	858.9	<i>858.4</i>
37.5°	773.4	784.7	811.4	816.8	<i>811.8</i>
40°	735.3	746.6	770.7	776.6	<i>774.1</i>
42.5°	707.2	709.2	729.9	736.6	<i>725.9</i>
45°	658.2	670.5	681.6	699.2	<i>682.6</i>
47.5°	616.5	622.2	646.2	650.9	<i>642.2</i>
50°	578.7	580.7	604.8	599.0	<i>593.2</i>
52.5°	531.1	539.6	553.1	552.0	<i>545.3</i>
55°	492.0	488.7	501.6	498.2	<i>498.0</i>
57.5°	445.0	450.7	461.3	455.9	<i>447.2</i>
60°	401.1	401.2	405.1	398.9	<i>397.8</i>
62.5°	352.1	353.8	354.7	347.1	<i>359.4</i>
65°	302.3	298.3	310.0	298.1	<i>300.1</i>
67.5°	256.4	258.4	257.3	249.9	<i>252.7</i>
70°	209.9	212.5	210.6	202.2	<i>204.7</i>
72.5°	167.3	164.2	166.2	155.6	<i>160.5</i>
75°	125.8	123.2	125.5	116.6	<i>120.6</i>
77.5°	85.7	87.7	86.2	81.5	<i>84.2</i>
80°	56.5	55.0	55.0	52.3	<i>52.8</i>
82.5°	33.0	31.4	31.0	30.1	<i>31.4</i>
85°	15.4	15.0	15.3	14.8	<i>14.3</i>
87.5°	5.6	5.7	5.7	5.4	<i>5.1</i>
90°	0.0	0.0	0.0	0.0	<i>0.0</i>

(END OF REPORT)