

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: P589993

Luminaire Tested: FSR-24-2-LD4-1LO-40-UNV-82-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P589993
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-82-88-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1156.0 lumens
Efficiency: N/A
Efficacy: 98.8 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

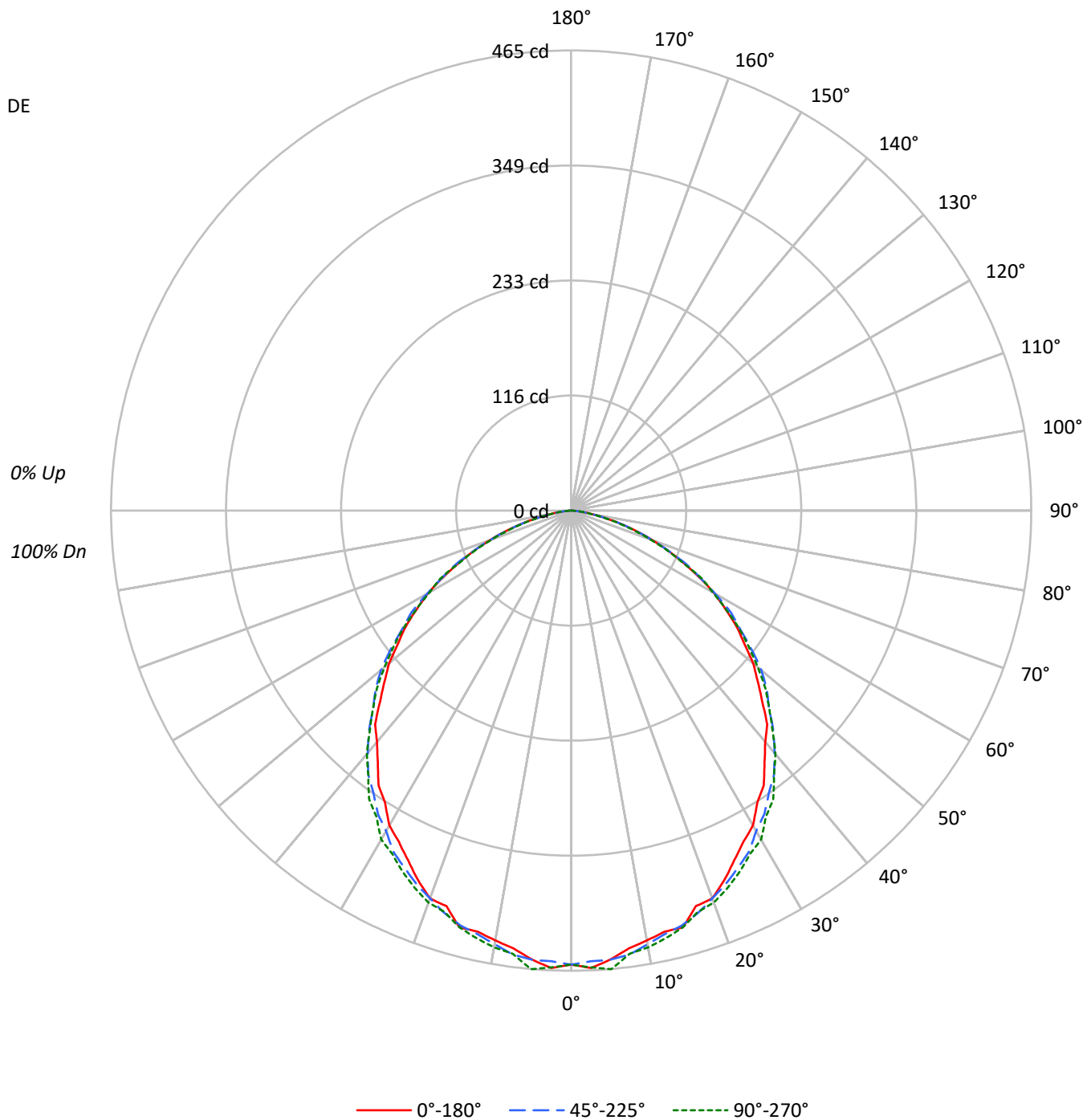
Input Watts (W): 11.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	1234	1234	1234
5°	1230	1231	1257
10°	1205	1216	1224
15°	1215	1208	1215
20°	1194	1194	1207
25°	1158	1183	1196
30°	1142	1162	1193
35°	1115	1144	1169
40°	1071	1123	1128
45°	1039	1076	1077
50°	1005	1050	1030
55°	958	976	969
60°	896	904	888
65°	798	819	793
70°	685	688	668
75°	543	542	520
80°	364	353	339
85°	198	195	182

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 1104 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.1	3.7
10°-20°	122.3	10.6
20°-30°	183.2	15.8
30°-40°	217.1	18.8
40°-50°	217.5	18.8
50°-60°	184.6	16.0
60°-70°	124.5	10.8
70°-80°	54.7	4.7
80°-90°	8.9	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°	348.6	30.2
0°-40°	565.8	48.9
0°-60°	967.9	83.7
0°-90°	1156.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1156.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	459	459	459	459	459	
5°	455	454	456	454	465	43
15°	436	431	434	436	436	121
25°	390	392	398	404	403	180
35°	339	340	348	356	356	211
45°	273	278	283	290	283	211
55°	204	203	208	207	207	182
65°	125	124	129	124	124	125
75°	52	51	52	48	50	56
85°	6	6	6	6	6	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	458.7	458.7	458.7	458.7	458.7
2.5°	462.6	459.1	455.9	459.7	462.0
5°	455.4	454.3	455.6	454.2	465.2
7.5°	446.1	450.1	452.5	451.0	451.7
10°	441.1	439.7	444.9	448.6	448.1
12.5°	435.8	437.9	438.2	442.1	442.5
15°	436.0	431.0	433.7	435.9	436.1
17.5°	419.1	424.6	426.4	431.5	425.2
20°	417.0	413.1	417.0	422.3	421.5
22.5°	404.3	399.9	408.4	413.1	412.8
25°	389.9	392.0	398.4	403.6	402.8
27.5°	377.2	379.7	388.8	396.0	391.3
30°	367.4	366.2	373.9	380.3	383.8
32.5°	349.9	354.4	363.4	369.8	366.4
35°	339.3	340.3	348.2	356.3	356.0
37.5°	320.8	325.5	336.6	338.8	336.7
40°	305.0	309.7	319.7	322.1	321.1
42.5°	293.3	294.2	302.7	305.5	301.1
45°	273.0	278.1	282.7	290.0	283.1
47.5°	255.7	258.1	268.0	270.0	266.4
50°	240.0	240.9	250.9	248.4	246.1
52.5°	220.3	223.8	229.4	229.0	226.2
55°	204.1	202.7	208.0	206.6	206.6
57.5°	184.6	187.0	191.3	189.1	185.5
60°	166.4	166.4	168.0	165.5	165.0
62.5°	146.0	146.8	147.1	144.0	149.1
65°	125.4	123.7	128.6	123.7	124.5
67.5°	106.4	107.2	106.7	103.6	104.8
70°	87.1	88.1	87.4	83.9	84.9
72.5°	69.4	68.1	68.9	64.6	66.6
75°	52.2	51.1	52.1	48.4	50.0
77.5°	35.5	36.4	35.8	33.8	34.9
80°	23.5	22.8	22.8	21.7	21.9
82.5°	13.7	13.0	12.9	12.5	13.0
85°	6.4	6.2	6.3	6.2	5.9
87.5°	2.3	2.4	2.4	2.3	2.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)