

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: P561105

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561105
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1LO-50-UNV-82-84-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

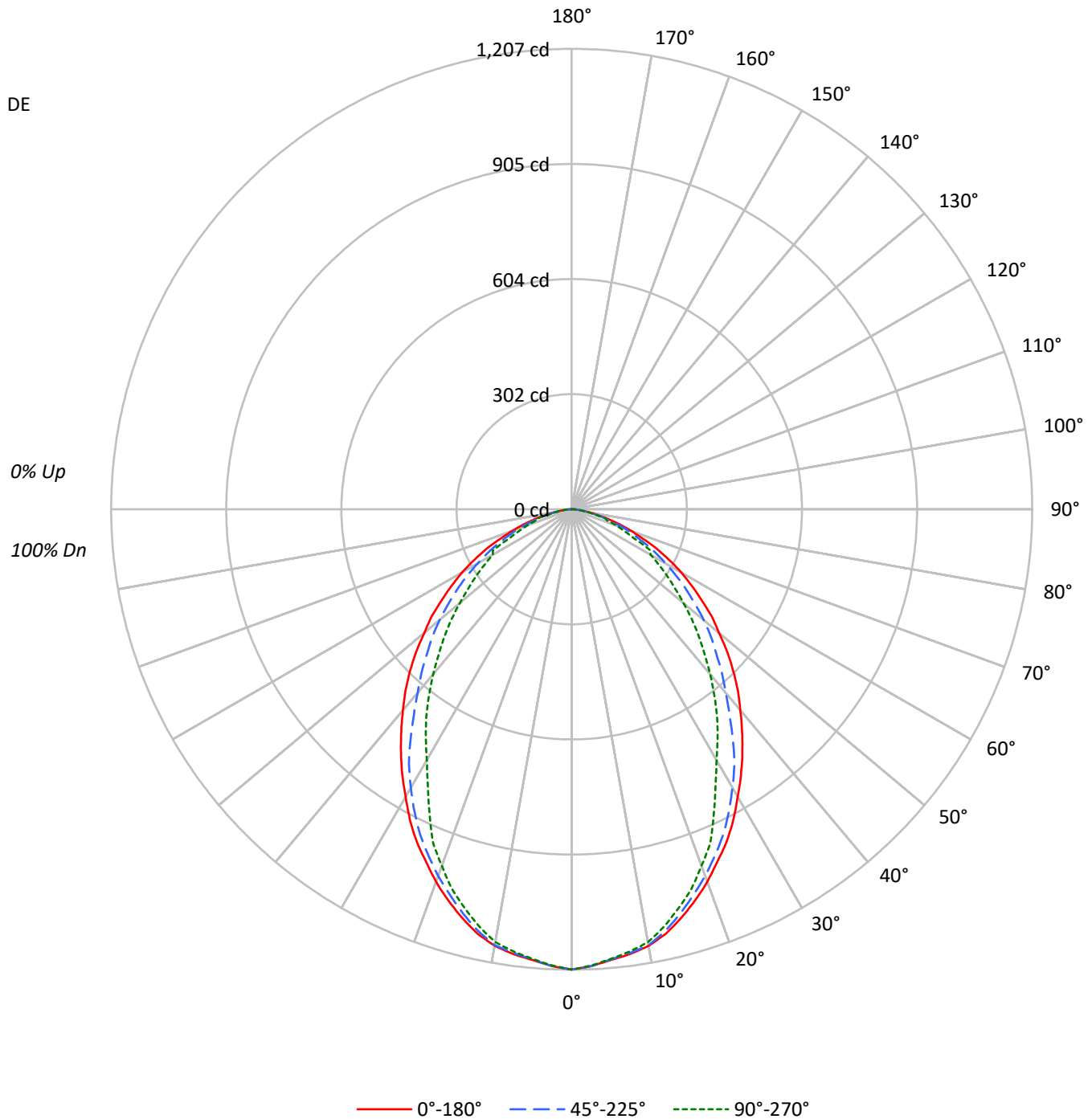
Lumens per Lamp: N/A
Luminaire Lumens: 2369.0 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3247	3247	3247
5°	3203	3199	3196
10°	3175	3172	3149
15°	3090	3059	3016
20°	2976	2928	2849
25°	2854	2792	2618
30°	2705	2618	2358
35°	2562	2420	2182
40°	2416	2205	1985
45°	2278	2039	1794
50°	2108	1892	1600
55°	1950	1715	1433
60°	1787	1532	1284
65°	1572	1342	1137
70°	1295	1175	966
75°	1030	899	943
80°	691	649	606
85°	432	516	602

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2278 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.3	4.7
10°-20°	308.3	13.0
20°-30°	426.8	18.0
30°-40°	455.1	19.2
40°-50°	415.2	17.5
50°-60°	325.3	13.7
60°-70°	212.0	8.9
70°-80°	93.9	4.0
80°-90°	20.2	0.9
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°	847.4	35.8
0°-40°	1302.5	55.0
0°-60°	2042.9	86.2
0°-90°	2369.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2369.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1207	1207	1207	1207	1207	
5°	1186	1184	1184	1183	1183	113
15°	1109	1109	1098	1087	1083	312
25°	961	956	940	907	882	441
35°	780	774	737	681	664	488
45°	598	586	536	491	472	461
55°	416	403	366	322	306	373
65°	247	233	211	215	179	243
75°	99	92	86	82	91	106
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1206.7	1206.7	1206.7	1206.7	1206.7
2.5°	1198.4	1198.4	1198.4	1197.0	1197.0
5°	1185.8	1184.4	1184.4	1183.0	1183.0
7.5°	1176.0	1174.7	1173.3	1171.9	1169.1
10°	1162.1	1162.1	1160.7	1153.7	1152.3
12.5°	1139.8	1138.4	1132.8	1123.0	1120.2
15°	1109.1	1109.1	1097.9	1086.8	1082.6
17.5°	1075.6	1074.2	1060.3	1049.1	1043.5
20°	1039.3	1036.5	1022.6	1004.5	994.7
22.5°	998.9	998.9	982.1	958.4	948.6
25°	961.2	955.6	940.3	906.8	881.7
27.5°	918.0	909.6	892.8	845.4	816.1
30°	870.5	866.3	842.6	781.2	758.9
32.5°	825.9	818.9	793.8	729.6	711.5
35°	779.8	774.3	736.6	680.8	664.1
37.5°	733.8	726.8	679.4	634.8	613.8
40°	687.8	679.4	627.8	587.3	565.0
42.5°	644.5	633.4	583.1	539.9	514.8
45°	598.5	585.9	535.7	491.1	471.5
47.5°	552.4	541.3	495.3	449.2	426.9
50°	503.6	493.9	452.0	406.0	382.2
52.5°	463.2	447.8	407.4	361.3	341.8
55°	415.7	403.2	365.5	322.3	305.5
57.5°	372.5	359.9	325.1	284.6	270.6
60°	332.0	313.9	284.6	249.7	238.6
62.5°	287.4	273.4	248.3	219.0	233.0
65°	246.9	233.0	210.7	214.8	178.6
67.5°	202.3	195.3	175.8	156.2	150.7
70°	164.6	156.2	149.3	128.3	122.8
72.5°	131.1	122.8	113.0	101.8	97.7
75°	99.1	92.1	86.5	82.3	90.7
77.5°	68.4	65.6	61.4	57.2	55.8
80°	44.6	43.2	41.9	40.5	39.1
82.5°	26.5	26.5	26.5	26.5	26.5
85°	14.0	15.3	16.7	18.1	19.5
87.5°	8.4	8.4	9.8	11.2	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)