

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: P561087

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-80-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561087
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-80-97-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

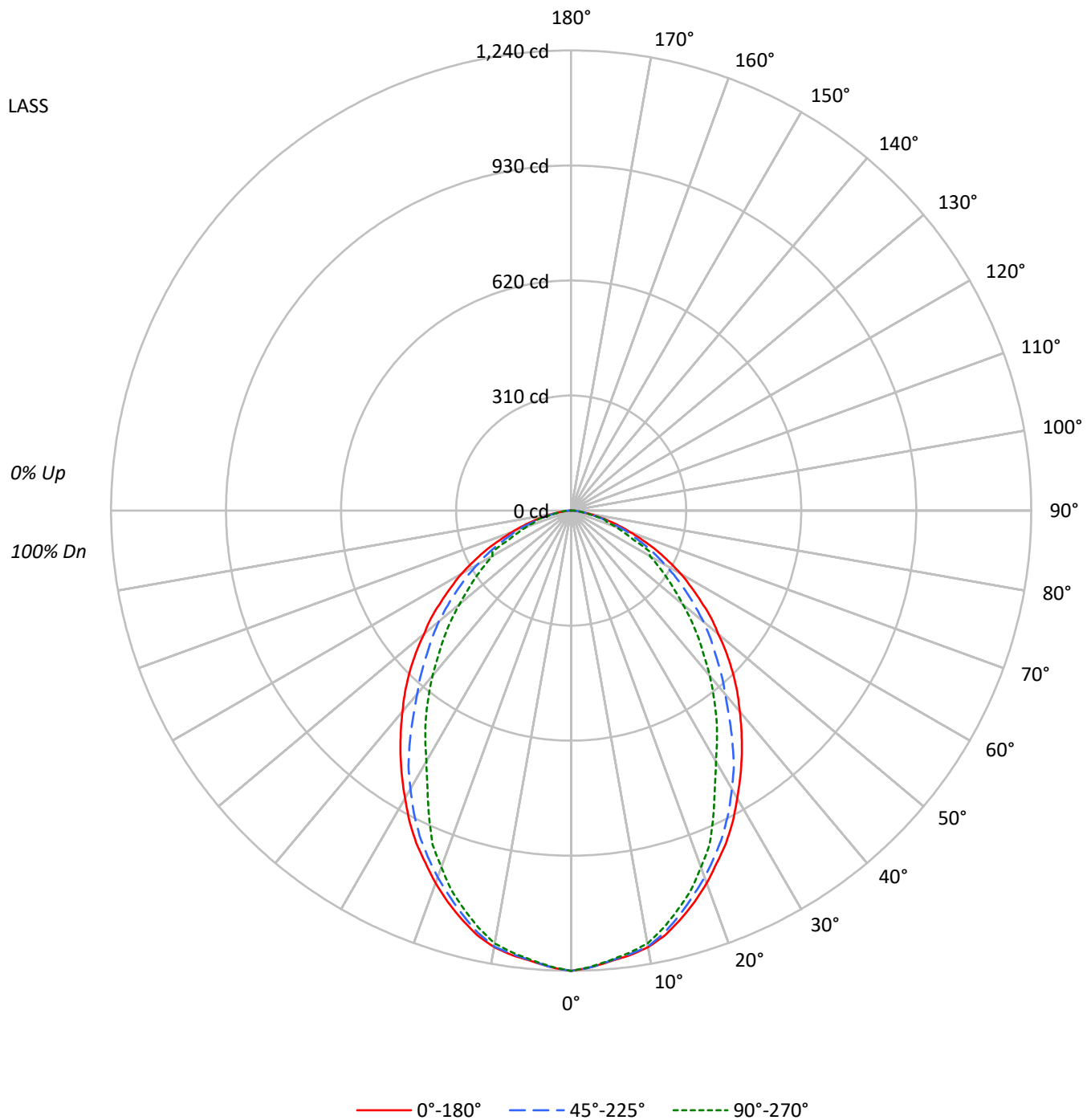
Lumens per Lamp: N/A
Luminaire Lumens: 2435.0 lumens
Efficiency: N/A
Efficacy: 104.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	3338	3338	3338
5°	3292	3289	3285
10°	3264	3260	3236
15°	3176	3144	3100
20°	3059	3010	2928
25°	2934	2870	2691
30°	2780	2691	2424
35°	2633	2487	2242
40°	2483	2267	2040
45°	2341	2095	1845
50°	2167	1945	1645
55°	2005	1763	1473
60°	1837	1574	1320
65°	1616	1379	1168
70°	1331	1207	993
75°	1058	924	969
80°	711	666	623
85°	442	531	621

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2341 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.5	4.7
10°-20°	316.9	13.0
20°-30°	438.7	18.0
30°-40°	467.8	19.2
40°-50°	426.7	17.5
50°-60°	334.3	13.7
60°-70°	217.9	8.9
70°-80°	96.5	4.0
80°-90°	20.7	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°	871.0	35.8
0°-40°	1338.8	55.0
0°-60°	2099.8	86.2
0°-90°	2435.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2435.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1219	1217	1217	1216	1216	116
15°	1140	1140	1128	1117	1113	320
25°	988	982	966	932	906	454
35°	802	796	757	700	683	501
45°	615	602	551	505	485	474
55°	427	414	376	331	314	383
65°	254	240	216	221	184	250
75°	102	95	89	85	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1240.4	1240.4	1240.4	1240.4	1240.4
2.5°	1231.8	1231.8	1231.8	1230.3	1230.3
5°	1218.8	1217.4	1217.4	1216.0	1216.0
7.5°	1208.8	1207.4	1205.9	1204.5	1201.6
10°	1194.5	1194.5	1193.0	1185.9	1184.4
12.5°	1171.5	1170.1	1164.4	1154.3	1151.5
15°	1140.0	1140.0	1128.5	1117.0	1112.7
17.5°	1105.6	1104.1	1089.8	1078.3	1072.6
20°	1068.3	1065.4	1051.1	1032.4	1022.4
22.5°	1026.7	1026.7	1009.5	985.1	975.1
25°	988.0	982.2	966.5	932.1	906.2
27.5°	943.5	934.9	917.7	869.0	838.9
30°	894.8	890.5	866.1	803.0	780.1
32.5°	848.9	841.7	815.9	749.9	731.3
35°	801.6	795.8	757.1	699.8	682.6
37.5°	754.3	747.1	698.3	652.4	630.9
40°	706.9	698.3	645.3	603.7	580.7
42.5°	662.5	651.0	599.4	554.9	529.1
45°	615.2	602.3	550.6	504.7	484.7
47.5°	567.8	556.4	509.0	461.7	438.8
50°	517.7	507.6	464.6	417.3	392.9
52.5°	476.1	460.3	418.7	371.4	351.3
55°	427.3	414.4	375.7	331.2	314.0
57.5°	382.9	370.0	334.1	292.5	278.2
60°	341.3	322.6	292.5	256.7	245.2
62.5°	295.4	281.1	255.2	225.1	239.5
65°	253.8	239.5	216.5	220.8	183.5
67.5°	207.9	200.8	180.7	160.6	154.9
70°	169.2	160.6	153.4	131.9	126.2
72.5°	134.8	126.2	116.1	104.7	100.4
75°	101.8	94.6	88.9	84.6	93.2
77.5°	70.3	67.4	63.1	58.8	57.4
80°	45.9	44.5	43.0	41.6	40.2
82.5°	27.2	27.2	27.2	27.2	27.2
85°	14.3	15.8	17.2	18.6	20.1
87.5°	8.6	8.6	10.0	11.5	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)