

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: P561210

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-80-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561210  
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-LD4-1STD-40-UNV-80-94-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

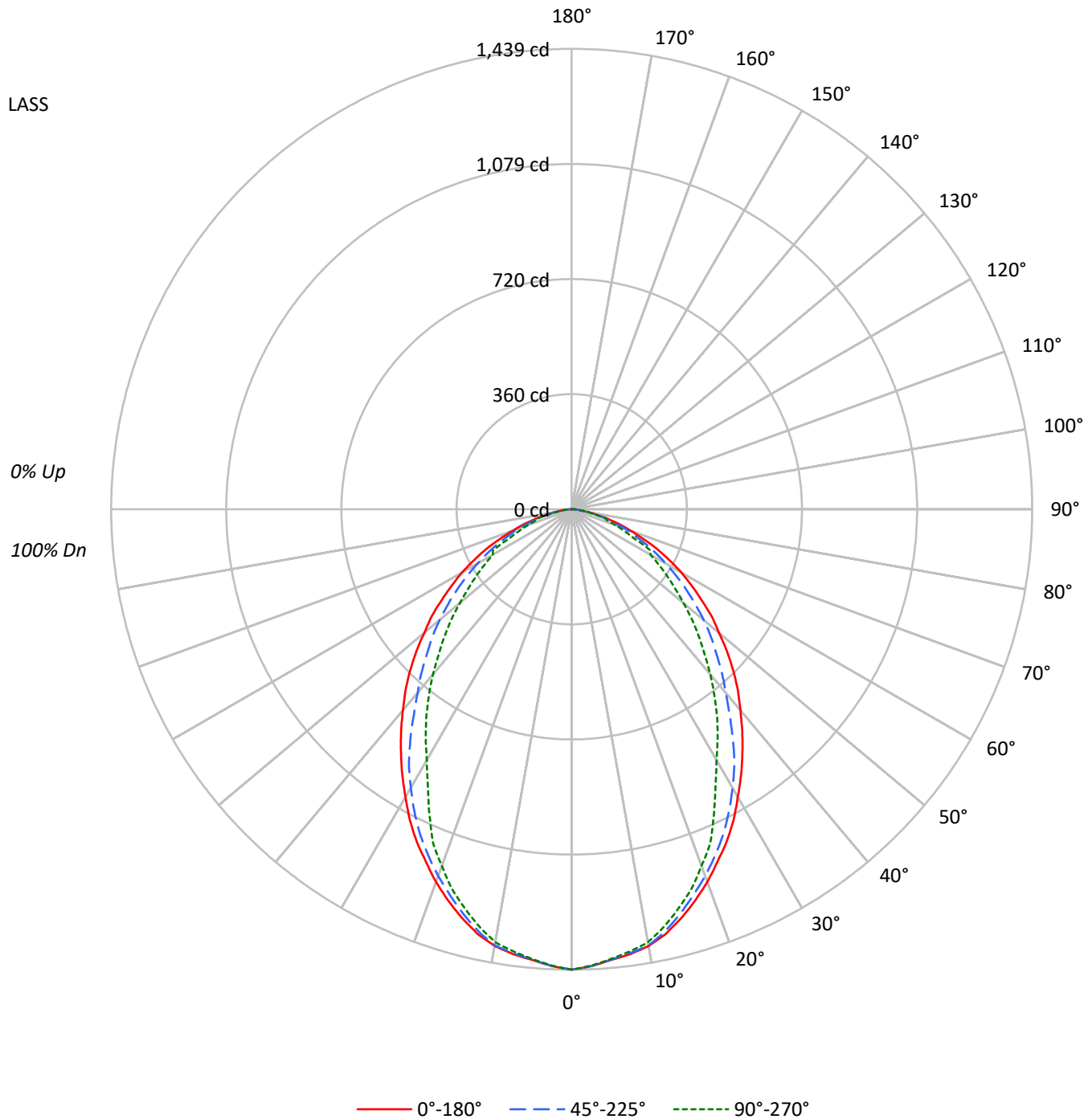
Lumens per Lamp: N/A  
Luminaire Lumens: 2825.0 lumens  
Efficiency: N/A  
Efficacy: 84.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3872	3872	3872
5°	3820	3815	3811
10°	3787	3782	3755
15°	3685	3648	3597
20°	3549	3492	3397
25°	3403	3329	3122
30°	3226	3122	2812
35°	3055	2886	2601
40°	2881	2630	2367
45°	2716	2431	2140
50°	2514	2256	1908
55°	2326	2045	1709
60°	2131	1827	1531
65°	1875	1599	1356
70°	1544	1400	1152
75°	1228	1072	1124
80°	824	773	722
85°	513	618	719

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2716 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.0	4.7
10°-20°	367.6	13.0
20°-30°	508.9	18.0
30°-40°	542.7	19.2
40°-50°	495.1	17.5
50°-60°	387.9	13.7
60°-70°	252.8	8.9
70°-80°	112.0	4.0
80°-90°	24.0	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°	1010.5	35.8
0°-40°	1553.2	55.0
0°-60°	2436.2	86.2
0°-90°	2825.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2825.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1439	1439	1439	1439	1439	
5°	1414	1412	1412	1411	1411	134
15°	1323	1323	1309	1296	1291	372
25°	1146	1140	1121	1081	1051	526
35°	930	923	878	812	792	581
45°	714	699	639	586	562	550
55°	496	481	436	384	364	445
65°	294	278	251	256	213	290
75°	118	110	103	98	108	127
85°	17	18	20	22	23	23
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1439.0	1439.0	1439.0	1439.0	1439.0
2.5°	1429.0	1429.0	1429.0	1427.4	1427.4
5°	1414.1	1412.4	1412.4	1410.7	1410.7
7.5°	1402.4	1400.8	1399.1	1397.4	1394.1
10°	1385.8	1385.8	1384.1	1375.8	1374.1
12.5°	1359.2	1357.5	1350.8	1339.2	1335.9
15°	1322.6	1322.6	1309.3	1295.9	1291.0
17.5°	1282.6	1281.0	1264.3	1251.0	1244.4
20°	1239.4	1236.1	1219.4	1197.8	1186.1
22.5°	1191.1	1191.1	1171.2	1142.9	1131.3
25°	1146.2	1139.6	1121.3	1081.3	1051.4
27.5°	1094.7	1084.7	1064.7	1008.1	973.2
30°	1038.1	1033.1	1004.8	931.6	905.0
32.5°	984.9	976.5	946.6	870.1	848.4
35°	930.0	923.3	878.4	811.8	791.9
37.5°	875.1	866.7	810.2	756.9	732.0
40°	820.2	810.2	748.6	700.4	673.8
42.5°	768.6	755.3	695.4	643.8	613.9
45°	713.7	698.7	638.8	585.6	562.3
47.5°	658.8	645.5	590.6	535.7	509.1
50°	600.6	588.9	539.0	484.1	455.8
52.5°	552.3	534.0	485.8	430.9	407.6
55°	495.8	480.8	435.9	384.3	364.3
57.5°	444.2	429.2	387.6	339.4	322.7
60°	395.9	374.3	339.4	297.8	284.5
62.5°	342.7	326.1	296.1	261.2	277.8
65°	294.5	277.8	251.2	256.2	212.9
67.5°	241.2	232.9	209.6	186.3	179.7
70°	196.3	186.3	178.0	153.1	146.4
72.5°	156.4	146.4	134.8	121.4	116.5
75°	118.1	109.8	103.1	98.2	108.1
77.5°	81.5	78.2	73.2	68.2	66.5
80°	53.2	51.6	49.9	48.2	46.6
82.5°	31.6	31.6	31.6	31.6	31.6
85°	16.6	18.3	20.0	21.6	23.3
87.5°	10.0	10.0	11.6	13.3	15.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)