

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: P561146

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-80-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561146  
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-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

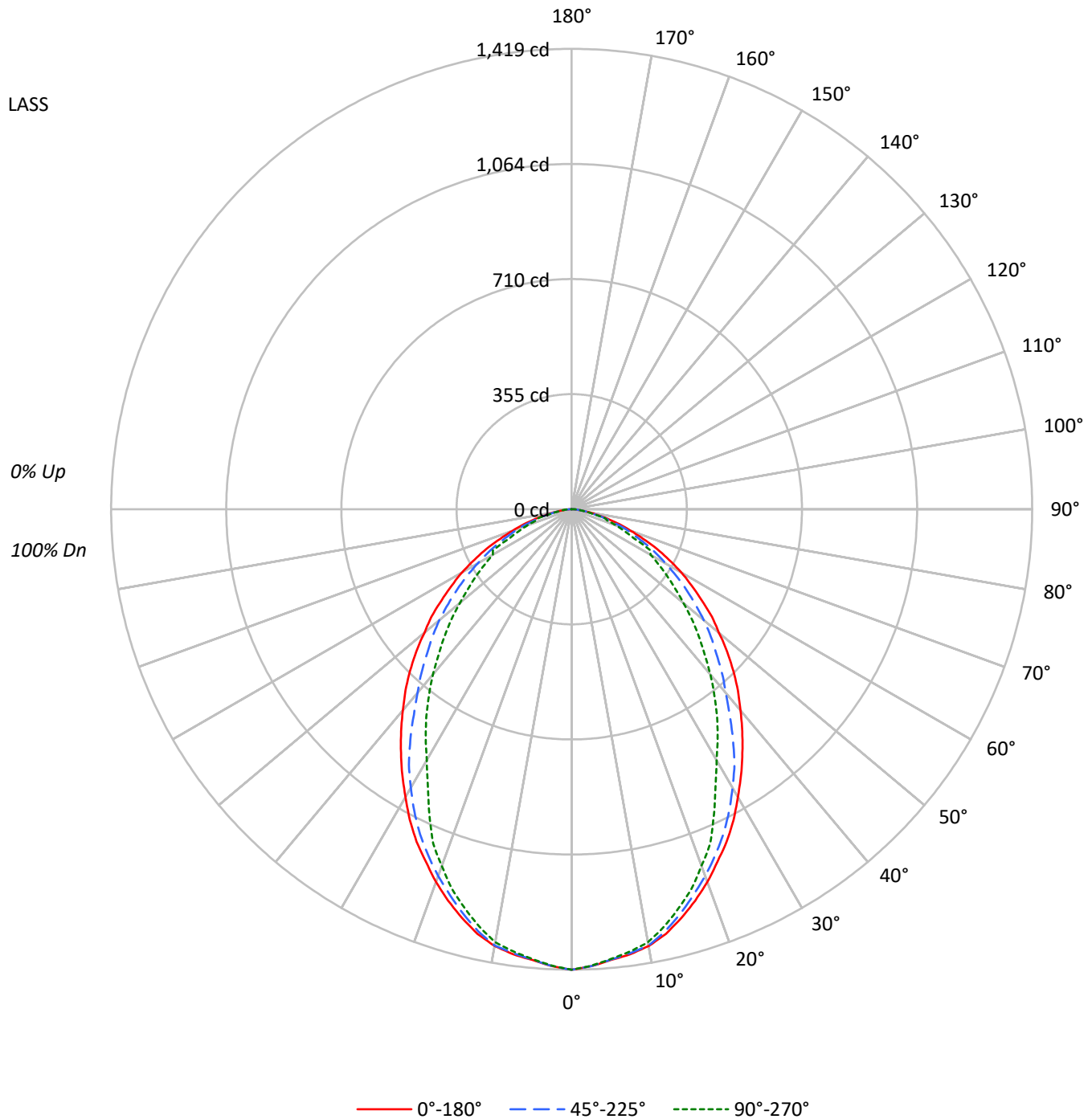
Lumens per Lamp: N/A  
Luminaire Lumens: 2786.0 lumens  
Efficiency: N/A  
Efficacy: 83.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3819	3819	3819
5°	3767	3763	3758
10°	3734	3730	3703
15°	3634	3597	3547
20°	3500	3444	3350
25°	3356	3283	3079
30°	3181	3079	2773
35°	3013	2846	2565
40°	2841	2594	2334
45°	2678	2398	2110
50°	2480	2226	1882
55°	2294	2016	1686
60°	2102	1801	1510
65°	1849	1577	1337
70°	1523	1381	1136
75°	1211	1057	1108
80°	814	762	711
85°	506	608	710

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2678 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.1	4.7
10°-20°	362.6	13.0
20°-30°	501.9	18.0
30°-40°	535.2	19.2
40°-50°	488.3	17.5
50°-60°	382.5	13.7
60°-70°	249.3	8.9
70°-80°	110.5	4.0
80°-90°	23.7	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°	996.6	35.8
0°-40°	1531.8	55.0
0°-60°	2402.5	86.2
0°-90°	2786.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2786.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1419	1419	1419	1419	1419	
5°	1394	1393	1393	1391	1391	132
15°	1304	1304	1291	1278	1273	367
25°	1130	1124	1106	1066	1037	519
35°	917	911	866	801	781	573
45°	704	689	630	578	554	542
55°	489	474	430	379	359	439
65°	290	274	248	253	210	286
75°	116	108	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1419.2	1419.2	1419.2	1419.2	1419.2
2.5°	1409.3	1409.3	1409.3	1407.7	1407.7
5°	1394.5	1392.9	1392.9	1391.3	1391.3
7.5°	1383.1	1381.4	1379.8	1378.1	1374.9
10°	1366.7	1366.7	1365.0	1356.8	1355.2
12.5°	1340.4	1338.8	1332.2	1320.7	1317.4
15°	1304.3	1304.3	1291.2	1278.1	1273.1
17.5°	1264.9	1263.3	1246.9	1233.8	1227.2
20°	1222.3	1219.0	1202.6	1181.3	1169.8
22.5°	1174.7	1174.7	1155.0	1127.1	1115.6
25°	1130.4	1123.8	1105.8	1066.4	1036.9
27.5°	1079.5	1069.7	1050.0	994.2	959.8
30°	1023.8	1018.8	990.9	918.8	892.5
32.5°	971.3	963.1	933.5	858.1	836.7
35°	917.1	910.6	866.3	800.6	780.9
37.5°	863.0	854.8	799.0	746.5	721.9
40°	808.8	799.0	738.3	690.7	664.5
42.5°	758.0	744.8	685.8	634.9	605.4
45°	703.8	689.1	630.0	577.5	554.5
47.5°	649.7	636.6	582.4	528.3	502.0
50°	592.3	580.8	531.6	477.4	449.5
52.5°	544.7	526.6	479.1	424.9	402.0
55°	488.9	474.1	429.8	379.0	359.3
57.5°	438.1	423.3	382.3	334.7	318.3
60°	390.5	369.1	334.7	293.7	280.5
62.5°	338.0	321.6	292.0	257.6	274.0
65°	290.4	274.0	247.7	252.7	210.0
67.5°	237.9	229.7	206.7	183.8	177.2
70°	193.6	183.8	175.5	150.9	144.4
72.5°	154.2	144.4	132.9	119.8	114.8
75°	116.5	108.3	101.7	96.8	106.6
77.5°	80.4	77.1	72.2	67.3	65.6
80°	52.5	50.9	49.2	47.6	45.9
82.5°	31.2	31.2	31.2	31.2	31.2
85°	16.4	18.0	19.7	21.3	23.0
87.5°	9.8	9.8	11.5	13.1	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)