

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: P562239

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-80-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562239  
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-24-4-LD4-1LO-50-UNV-80-97-EDD  
Description: 2X4 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**

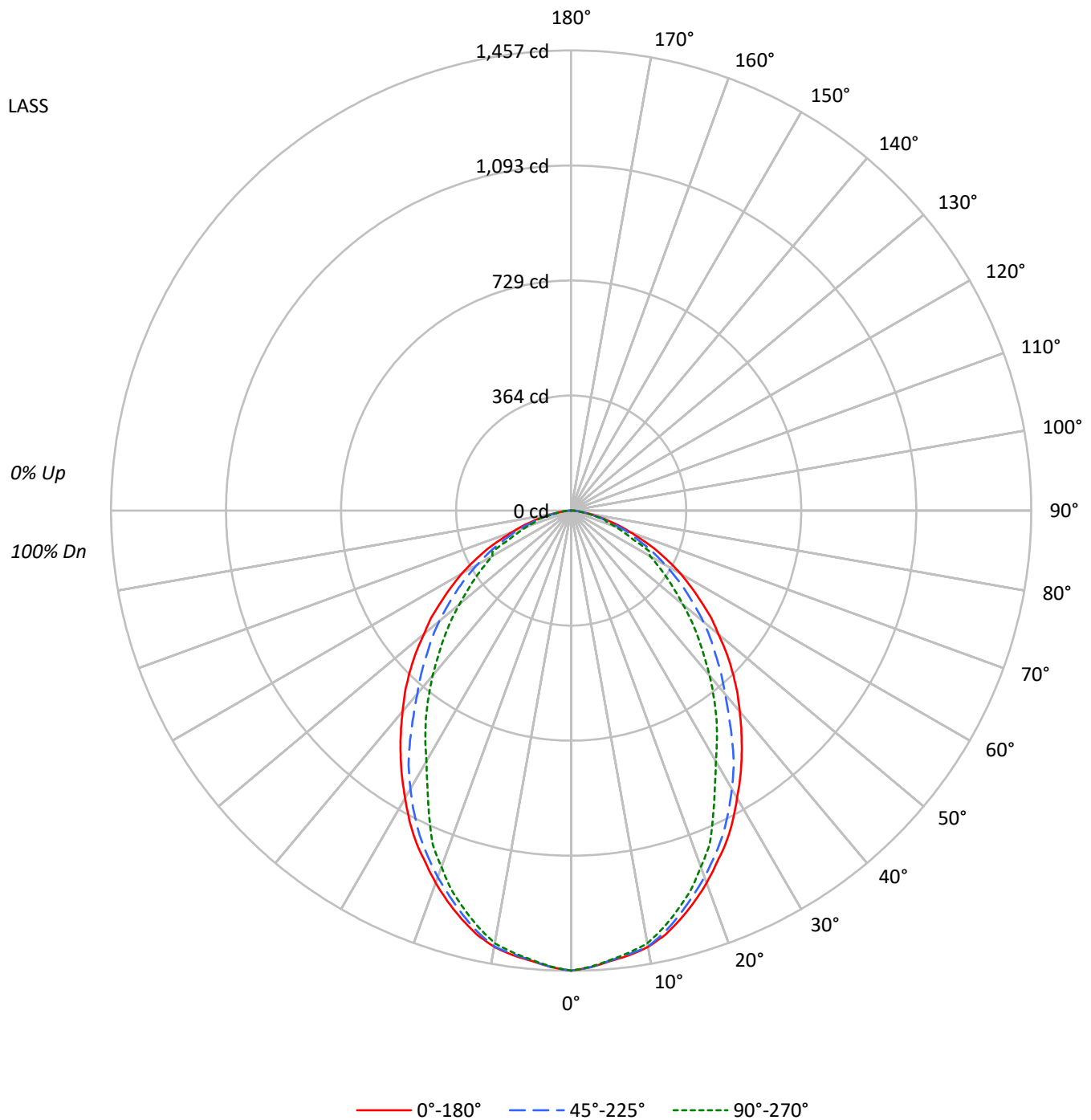
Lumens per Lamp: N/A  
Luminaire Lumens: 2860.0 lumens  
Efficiency: N/A  
Efficacy: 122.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77					75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67					65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58					56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42					40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34					33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32					30				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1960	1960	1960
5°	1934	1931	1929
10°	1917	1915	1901
15°	1865	1846	1821
20°	1797	1768	1719
25°	1723	1685	1580
30°	1633	1581	1423
35°	1546	1461	1317
40°	1458	1331	1198
45°	1375	1231	1083
50°	1273	1142	966
55°	1177	1035	865
60°	1079	925	775
65°	949	810	686
70°	782	709	583
75°	622	543	569
80°	418	391	366
85°	259	312	364

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1375 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.6	4.7
10°-20°	372.2	13.0
20°-30°	515.3	18.0
30°-40°	549.4	19.2
40°-50°	501.2	17.5
50°-60°	392.7	13.7
60°-70°	255.9	8.9
70°-80°	113.4	4.0
80°-90°	24.3	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°	1023.0	35.8
0°-40°	1572.5	55.0
0°-60°	2466.3	86.2
0°-90°	2860.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2860.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1457	1457	1457	1457	1457	
5°	1432	1430	1430	1428	1428	136
15°	1339	1339	1326	1312	1307	376
25°	1160	1154	1135	1095	1064	533
35°	942	935	889	822	802	589
45°	722	707	647	593	569	557
55°	502	487	441	389	369	450
65°	298	281	254	259	216	294
75°	120	111	104	99	110	128
85°	17	18	20	22	24	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1456.8	1456.8	1456.8	1456.8	1456.8
2.5°	1446.7	1446.7	1446.7	1445.1	1445.1
5°	1431.6	1429.9	1429.9	1428.2	1428.2
7.5°	1419.8	1418.1	1416.4	1414.7	1411.4
10°	1403.0	1403.0	1401.3	1392.8	1391.2
12.5°	1376.0	1374.3	1367.6	1355.8	1352.4
15°	1339.0	1339.0	1325.5	1312.0	1307.0
17.5°	1298.5	1296.8	1280.0	1266.5	1259.8
20°	1254.7	1251.4	1234.5	1212.6	1200.8
22.5°	1205.9	1205.9	1185.7	1157.1	1145.3
25°	1160.4	1153.7	1135.2	1094.7	1064.4
27.5°	1108.2	1098.1	1077.9	1020.6	985.3
30°	1051.0	1045.9	1017.3	943.2	916.2
32.5°	997.1	988.6	958.3	880.8	858.9
35°	941.5	934.7	889.3	821.9	801.7
37.5°	885.9	877.5	820.2	766.3	741.1
40°	830.3	820.2	757.9	709.1	682.1
42.5°	778.1	764.6	704.0	651.8	621.5
45°	722.5	707.4	646.7	592.8	569.3
47.5°	666.9	653.5	597.9	542.3	515.4
50°	608.0	596.2	545.7	490.1	461.5
52.5°	559.2	540.6	491.8	436.2	412.6
55°	501.9	486.7	441.3	389.1	368.8
57.5°	449.7	434.5	392.4	343.6	326.7
60°	400.8	378.9	343.6	301.5	288.0
62.5°	346.9	330.1	299.8	264.4	281.3
65°	298.1	281.3	254.3	259.4	215.6
67.5°	244.2	235.8	212.2	188.6	181.9
70°	198.7	188.6	180.2	154.9	148.2
72.5°	158.3	148.2	136.4	122.9	117.9
75°	119.6	111.2	104.4	99.4	109.5
77.5°	82.5	79.2	74.1	69.1	67.4
80°	53.9	52.2	50.5	48.8	47.2
82.5°	32.0	32.0	32.0	32.0	32.0
85°	16.8	18.5	20.2	21.9	23.6
87.5°	10.1	10.1	11.8	13.5	15.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)