

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: P561727

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-80-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561727  
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-LD4-2STD-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

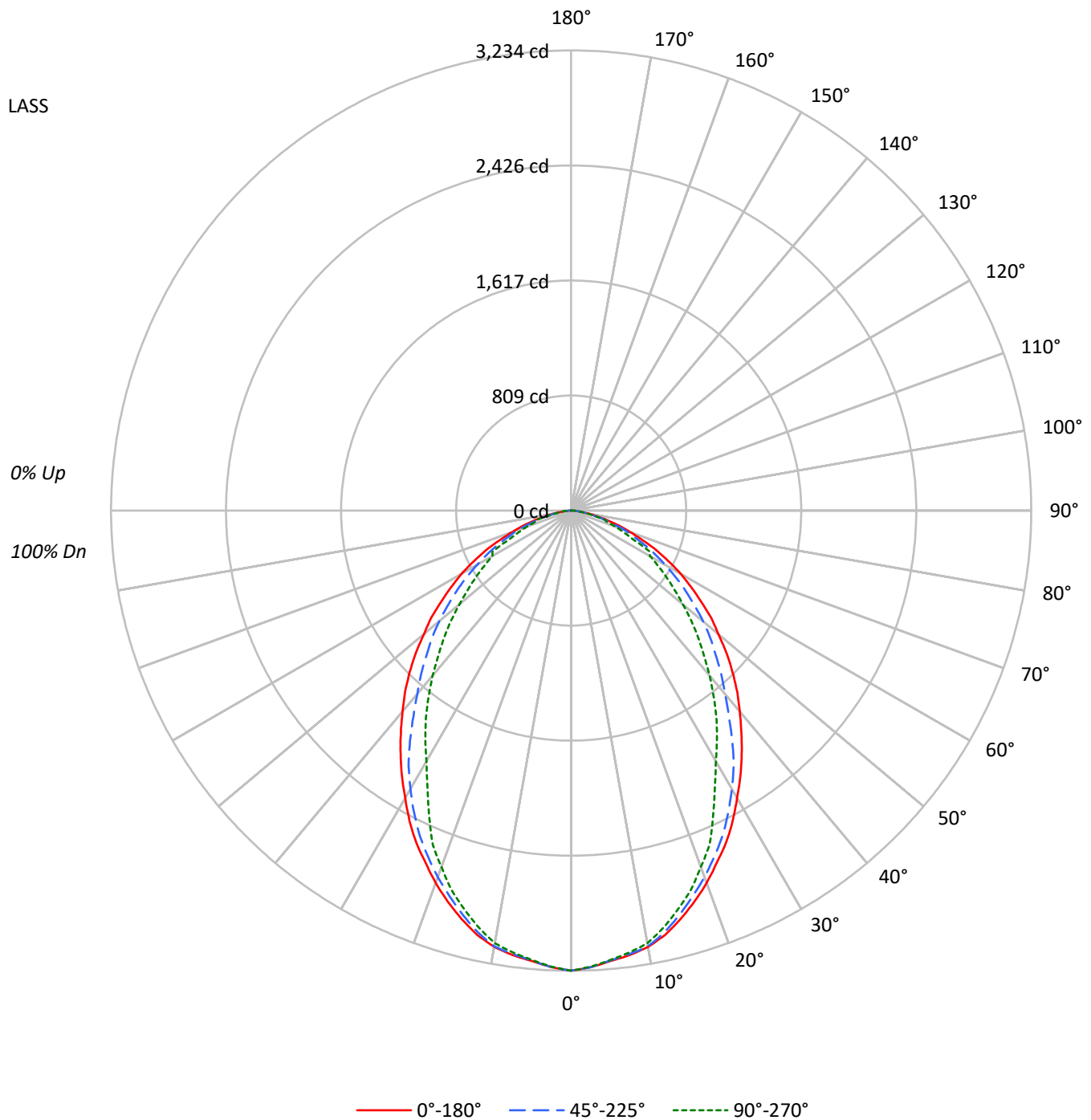
Lumens per Lamp: N/A  
Luminaire Lumens: 6348.0 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8702	8702	8702
5°	8583	8573	8563
10°	8509	8499	8437
15°	8279	8196	8082
20°	7975	7847	7633
25°	7648	7481	7015
30°	7248	7016	6319
35°	6865	6484	5845
40°	6474	5909	5318
45°	6103	5463	4808
50°	5650	5071	4288
55°	5226	4595	3841
60°	4788	4104	3440
65°	4213	3594	3047
70°	3471	3147	2589
75°	2759	2410	2527
80°	1853	1737	1623
85°	1155	1386	1615

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6103 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	301.0	4.7
10°-20°	826.1	13.0
20°-30°	1143.7	18.0
30°-40°	1219.5	19.2
40°-50°	1112.5	17.5
50°-60°	871.6	13.7
60°-70°	568.0	8.9
70°-80°	251.7	4.0
80°-90°	54.0	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°	2270.7	35.8
0°-40°	3490.2	55.0
0°-60°	5474.3	86.2
0°-90°	6348.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6348.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3234	3234	3234	3234	3234	
5°	3178	3174	3174	3170	3170	302
15°	2972	2972	2942	2912	2901	835
25°	2576	2561	2520	2430	2363	1182
35°	2090	2075	1974	1824	1779	1306
45°	1604	1570	1436	1316	1264	1235
55°	1114	1080	979	864	819	999
65°	662	624	564	576	478	652
75°	265	247	232	221	243	284
85°	37	41	45	49	52	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3233.6	3233.6	3233.6	3233.6	3233.6
2.5°	3211.2	3211.2	3211.2	3207.4	3207.4
5°	3177.5	3173.8	3173.8	3170.0	3170.0
7.5°	3151.3	3147.6	3143.9	3140.1	3132.7
10°	3114.0	3114.0	3110.2	3091.5	3087.8
12.5°	3054.2	3050.4	3035.5	3009.3	3001.8
15°	2971.9	2971.9	2942.0	2912.1	2900.9
17.5°	2882.2	2878.5	2841.1	2811.2	2796.2
20°	2785.0	2777.5	2740.1	2691.5	2665.4
22.5°	2676.6	2676.6	2631.7	2568.2	2542.0
25°	2575.7	2560.7	2519.6	2429.9	2362.6
27.5°	2459.8	2437.3	2392.5	2265.4	2186.9
30°	2332.7	2321.5	2257.9	2093.4	2033.6
32.5°	2213.0	2194.4	2127.1	1955.1	1906.5
35°	2089.7	2074.7	1973.8	1824.3	1779.4
37.5°	1966.3	1947.6	1820.5	1700.9	1644.8
40°	1843.0	1820.5	1682.2	1573.8	1514.0
42.5°	1727.1	1697.2	1562.6	1446.7	1379.4
45°	1603.7	1570.1	1435.5	1315.9	1263.5
47.5°	1480.3	1450.4	1327.1	1203.7	1143.9
50°	1349.5	1323.3	1211.2	1087.8	1024.3
52.5°	1241.1	1200.0	1091.6	968.2	915.9
55°	1114.0	1080.4	979.4	863.5	818.7
57.5°	998.1	964.5	871.0	762.6	725.2
60°	889.7	841.1	762.6	669.1	639.2
62.5°	770.1	732.7	665.4	586.9	624.3
65°	661.7	624.3	564.5	575.7	478.5
67.5°	542.0	523.4	471.0	418.7	403.7
70°	441.1	418.7	400.0	343.9	329.0
72.5°	351.4	329.0	302.8	272.9	261.7
75°	265.4	246.7	231.8	220.6	243.0
77.5°	183.2	175.7	164.5	153.3	149.5
80°	119.6	115.9	112.1	108.4	104.7
82.5°	71.0	71.0	71.0	71.0	71.0
85°	37.4	41.1	44.9	48.6	52.3
87.5°	22.4	22.4	26.2	29.9	33.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)