

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: P560624

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560624  
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-12-2-LD4-2STD-40-UNV-80-84-EDD-90  
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

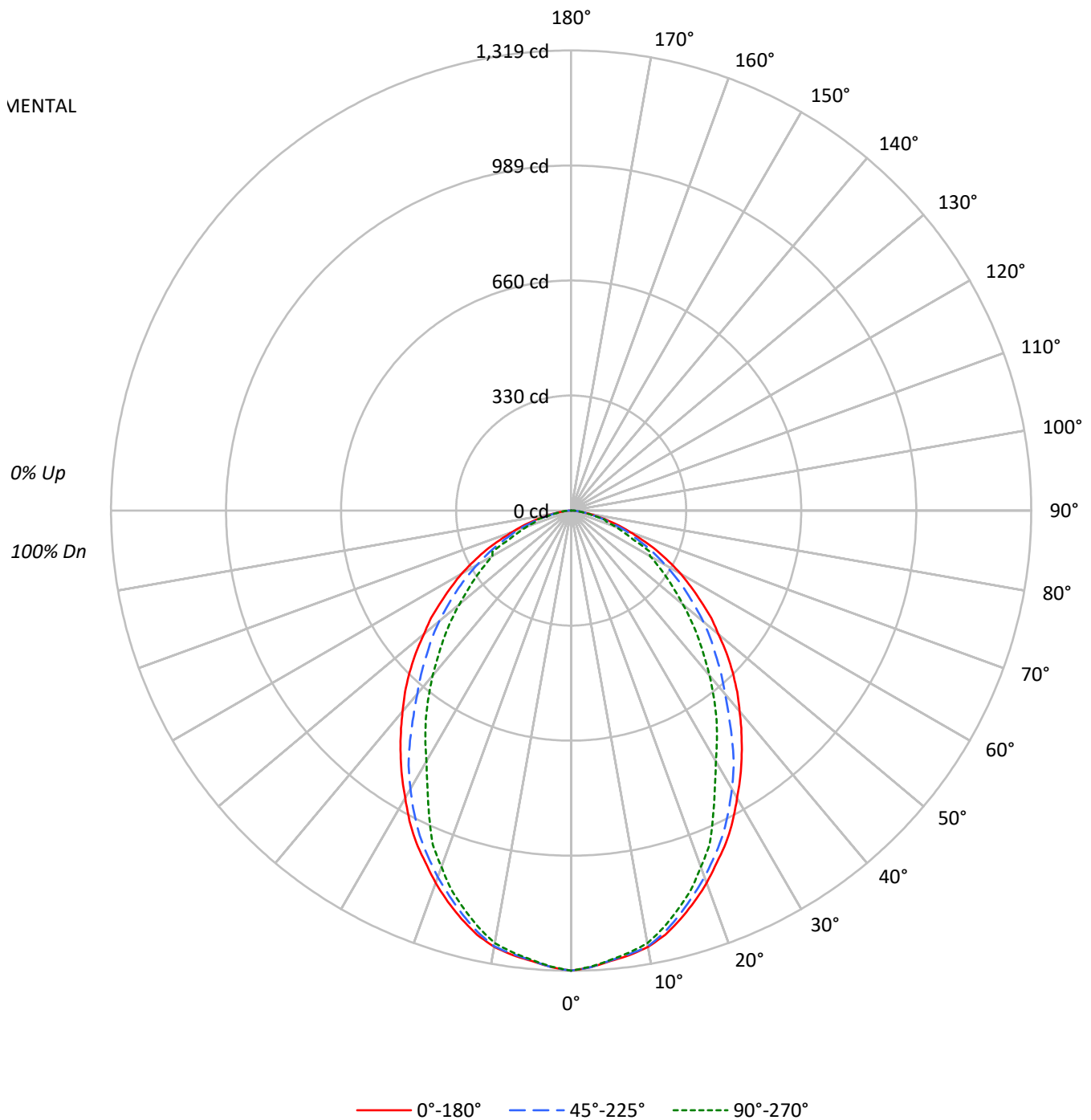
Lumens per Lamp: N/A  
Luminaire Lumens: 2589.0 lumens  
Efficiency: N/A  
Efficacy: 77.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7098	7098	7098
5°	7001	6993	6985
10°	6941	6932	6882
15°	6754	6686	6592
20°	6505	6401	6226
25°	6238	6102	5722
30°	5913	5723	5154
35°	5600	5289	4768
40°	5280	4820	4338
45°	4979	4456	3922
50°	4608	4136	3497
55°	4263	3749	3133
60°	3906	3348	2806
65°	3437	2932	2486
70°	2831	2567	2112
75°	2250	1965	2061
80°	1512	1416	1323
85°	939	1130	1315

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4979 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.8	4.7
10°-20°	336.9	13.0
20°-30°	466.4	18.0
30°-40°	497.4	19.2
40°-50°	453.7	17.5
50°-60°	355.5	13.7
60°-70°	231.7	8.9
70°-80°	102.6	4.0
80°-90°	22.0	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°	926.1	35.8
0°-40°	1423.5	55.0
0°-60°	2232.7	86.2
0°-90°	2589.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2589.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1319	1319	1319	1319	1319	
5°	1296	1294	1294	1293	1293	123
15°	1212	1212	1200	1188	1183	341
25°	1050	1044	1028	991	964	482
35°	852	846	805	744	726	533
45°	654	640	586	537	515	504
55°	454	441	400	352	334	408
65°	270	255	230	235	195	266
75°	108	101	94	90	99	116
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	<i>1318.8</i>	<i>1318.8</i>	<i>1318.8</i>	<i>1318.8</i>	<i>1318.8</i>
2.5°	<i>1309.7</i>	1309.7	1309.7	1308.1	1308.1
5°	<i>1295.9</i>	1294.4	1294.4	1292.9	1292.9
7.5°	<i>1285.3</i>	1283.7	1282.2	1280.7	1277.6
10°	<i>1270.0</i>	1270.0	1268.5	1260.9	1259.3
12.5°	<i>1245.6</i>	1244.1	1238.0	1227.3	1224.3
15°	<i>1212.1</i>	1212.1	1199.9	1187.7	1183.1
17.5°	<i>1175.5</i>	1174.0	1158.7	1146.5	1140.4
20°	<i>1135.8</i>	1132.8	1117.6	1097.7	1087.1
22.5°	<i>1091.6</i>	1091.6	1073.3	1047.4	1036.7
25°	<i>1050.5</i>	1044.4	1027.6	991.0	963.6
27.5°	<i>1003.2</i>	994.1	975.8	923.9	891.9
30°	<i>951.4</i>	946.8	920.9	853.8	829.4
32.5°	<i>902.6</i>	895.0	867.5	797.4	777.6
35°	<i>852.3</i>	846.2	805.0	744.0	725.7
37.5°	<i>802.0</i>	794.3	742.5	693.7	670.8
40°	<i>751.6</i>	742.5	686.1	641.9	617.5
42.5°	<i>704.4</i>	692.2	637.3	590.0	562.6
45°	<i>654.1</i>	640.3	585.5	536.7	515.3
47.5°	<i>603.8</i>	591.6	541.2	490.9	466.5
50°	<i>550.4</i>	539.7	494.0	443.7	417.7
52.5°	<i>506.2</i>	489.4	445.2	394.9	373.5
55°	<i>454.3</i>	440.6	399.5	352.2	333.9
57.5°	<i>407.1</i>	393.4	355.2	311.0	295.8
60°	<i>362.9</i>	343.0	311.0	272.9	260.7
62.5°	<i>314.1</i>	298.8	271.4	239.4	254.6
65°	<i>269.9</i>	254.6	230.2	234.8	195.2
67.5°	<i>221.1</i>	213.4	192.1	170.8	164.7
70°	<i>179.9</i>	170.8	163.1	140.3	134.2
72.5°	<i>143.3</i>	134.2	123.5	111.3	106.7
75°	<i>108.2</i>	100.6	94.5	90.0	99.1
77.5°	<i>74.7</i>	71.7	67.1	62.5	61.0
80°	<i>48.8</i>	47.3	45.7	44.2	42.7
82.5°	<i>29.0</i>	29.0	29.0	29.0	29.0
85°	<i>15.2</i>	16.8	18.3	19.8	21.3
87.5°	<i>9.1</i>	9.1	10.7	12.2	13.7
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

(END OF REPORT)