

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: P560437

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560437  
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-LD4-2LO-40-UNV-80-86-EDD  
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

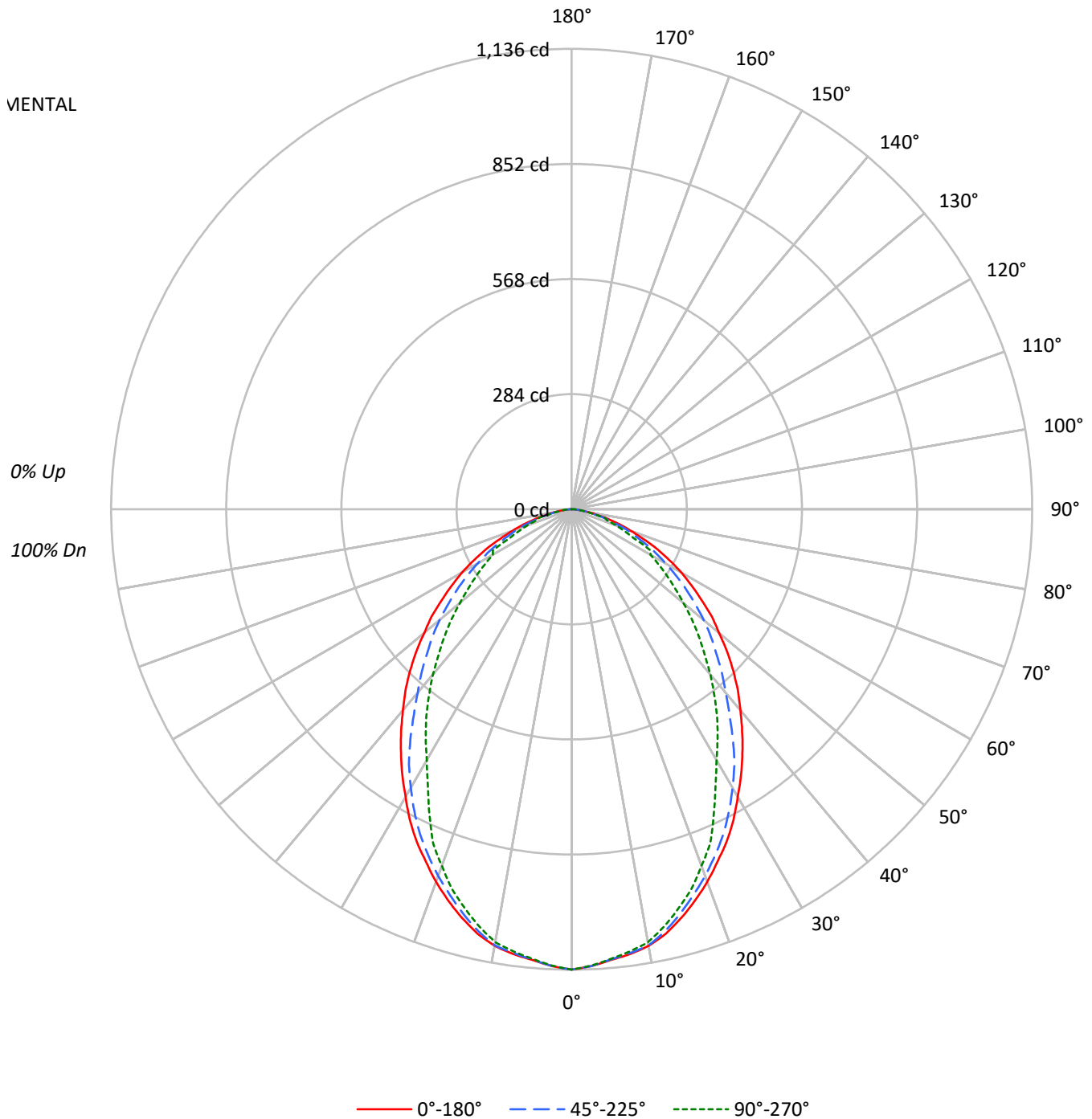
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2230.0 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: 2' 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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	6113	6113	6113
5°	6030	6023	6016
10°	5978	5971	5928
15°	5817	5758	5678
20°	5603	5513	5363
25°	5373	5256	4929
30°	5092	4929	4440
35°	4823	4556	4107
40°	4548	4151	3737
45°	4288	3838	3379
50°	3970	3563	3013
55°	3672	3229	2699
60°	3364	2884	2418
65°	2960	2525	2141
70°	2439	2211	1819
75°	1938	1693	1776
80°	1302	1221	1141
85°	809	976	1136

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4288 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.7	4.7
10°-20°	290.2	13.0
20°-30°	401.8	18.0
30°-40°	428.4	19.2
40°-50°	390.8	17.5
50°-60°	306.2	13.7
60°-70°	199.6	8.9
70°-80°	88.4	4.0
80°-90°	19.0	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°	797.7	35.8
0°-40°	1226.1	55.0
0°-60°	1923.1	86.2
0°-90°	2230.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2230.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1136	1136	1136	1136	1136	
5°	1116	1115	1115	1114	1114	106
15°	1044	1044	1034	1023	1019	293
25°	905	900	885	854	830	415
35°	734	729	693	641	625	459
45°	563	552	504	462	444	434
55°	391	380	344	303	288	351
65°	232	219	198	202	168	229
75°	93	87	81	78	85	100
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	<i>1135.9</i>	<i>1135.9</i>	<i>1135.9</i>	<i>1135.9</i>	<i>1135.9</i>
2.5°	<i>1128.1</i>	1128.1	1128.1	1126.7	1126.7
5°	<i>1116.2</i>	1114.9	1114.9	1113.6	1113.6
7.5°	<i>1107.0</i>	1105.7	1104.4	1103.1	1100.5
10°	<i>1093.9</i>	1093.9	1092.6	1086.0	1084.7
12.5°	<i>1072.9</i>	1071.6	1066.3	1057.1	1054.5
15°	<i>1044.0</i>	1044.0	1033.5	1023.0	1019.1
17.5°	<i>1012.5</i>	1011.2	998.0	987.5	982.3
20°	<i>978.3</i>	975.7	962.6	945.5	936.3
22.5°	<i>940.3</i>	940.3	924.5	902.2	893.0
25°	<i>904.8</i>	899.6	885.1	853.6	830.0
27.5°	<i>864.1</i>	856.2	840.5	795.8	768.2
30°	<i>819.4</i>	815.5	793.2	735.4	714.4
32.5°	<i>777.4</i>	770.9	747.2	686.8	669.7
35°	<i>734.1</i>	728.8	693.4	640.8	625.1
37.5°	<i>690.8</i>	684.2	639.5	597.5	577.8
40°	<i>647.4</i>	639.5	590.9	552.9	531.9
42.5°	<i>606.7</i>	596.2	548.9	508.2	484.6
45°	<i>563.4</i>	551.6	504.3	462.3	443.9
47.5°	<i>520.0</i>	509.5	466.2	422.9	401.8
50°	<i>474.1</i>	464.9	425.5	382.1	359.8
52.5°	<i>436.0</i>	421.5	383.5	340.1	321.7
55°	<i>391.3</i>	379.5	344.1	303.4	287.6
57.5°	<i>350.6</i>	338.8	306.0	267.9	254.8
60°	<i>312.5</i>	295.5	267.9	235.1	224.6
62.5°	<i>270.5</i>	257.4	233.8	206.2	219.3
65°	<i>232.4</i>	219.3	198.3	202.2	168.1
67.5°	<i>190.4</i>	183.9	165.5	147.1	141.8
70°	<i>155.0</i>	147.1	140.5	120.8	115.6
72.5°	<i>123.4</i>	115.6	106.4	95.9	91.9
75°	<i>93.2</i>	86.7	81.4	77.5	85.4
77.5°	<i>64.3</i>	61.7	57.8	53.8	52.5
80°	<i>42.0</i>	40.7	39.4	38.1	36.8
82.5°	<i>25.0</i>	25.0	25.0	25.0	25.0
85°	<i>13.1</i>	14.4	15.8	17.1	18.4
87.5°	<i>7.9</i>	7.9	9.2	10.5	11.8
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

(END OF REPORT)