

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: P560483

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560483  
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-93-85-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

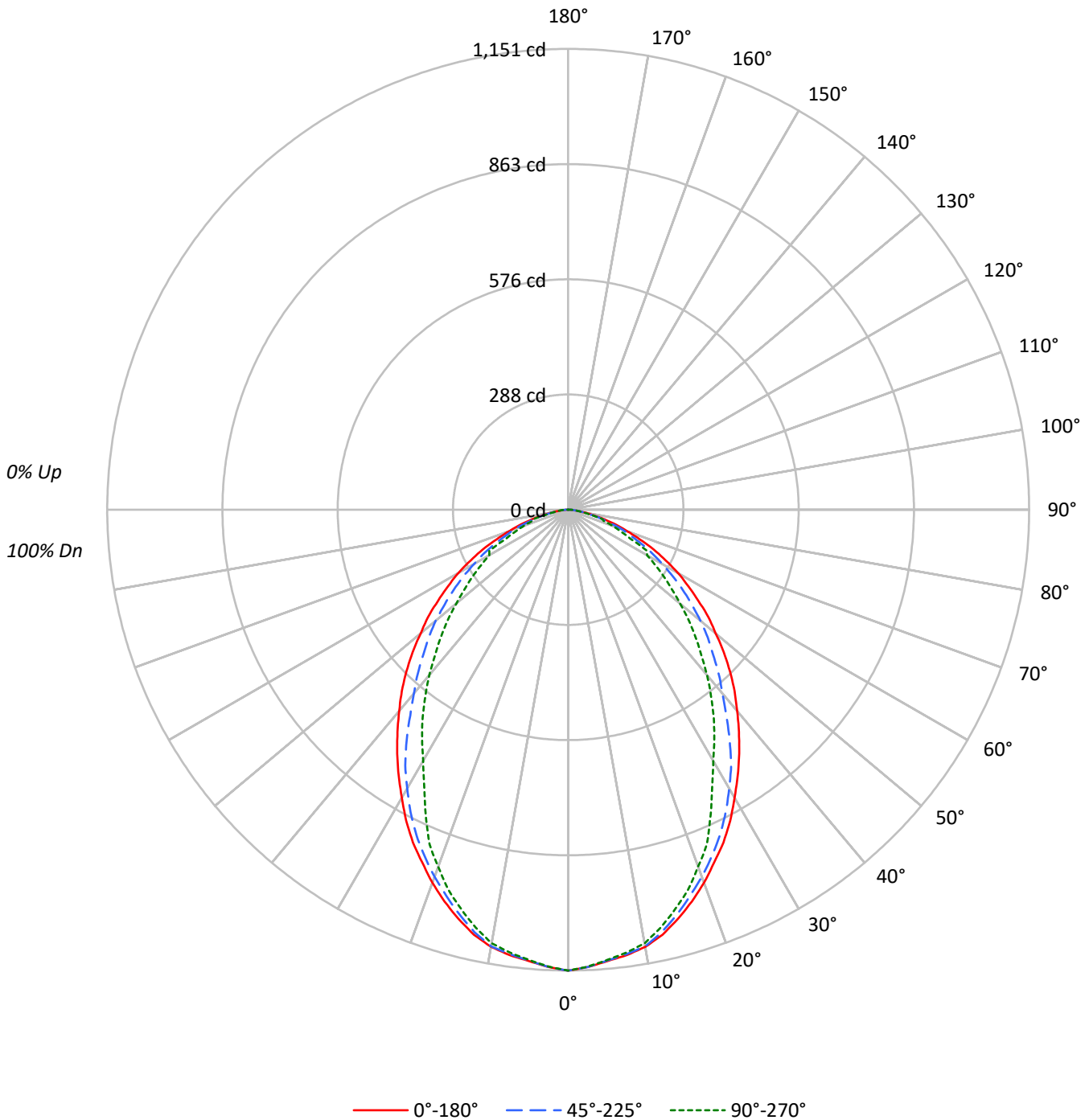
Lumens per Lamp: N/A  
Luminaire Lumens: 2260.0 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6196	6196	6196
5°	6112	6104	6097
10°	6058	6051	6008
15°	5896	5836	5755
20°	5679	5587	5435
25°	5445	5327	4995
30°	5161	4996	4499
35°	4888	4617	4162
40°	4610	4208	3787
45°	4345	3890	3424
50°	4022	3610	3054
55°	3721	3272	2735
60°	3410	2922	2450
65°	3000	2560	2170
70°	2471	2241	1843
75°	1965	1716	1799
80°	1320	1237	1156
85°	821	988	1149

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4345 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.2	4.7
10°-20°	294.1	13.0
20°-30°	407.2	18.0
30°-40°	434.2	19.2
40°-50°	396.1	17.5
50°-60°	310.3	13.7
60°-70°	202.2	8.9
70°-80°	89.6	4.0
80°-90°	19.2	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°	808.4	35.8
0°-40°	1242.6	55.0
0°-60°	1948.9	86.2
0°-90°	2260.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2260.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1151	1151	1151	1151	1151	
5°	1131	1130	1130	1129	1129	107
15°	1058	1058	1047	1037	1033	297
25°	917	912	897	865	841	421
35°	744	739	703	650	634	465
45°	571	559	511	468	450	440
55°	397	385	349	307	292	356
65°	236	222	201	205	170	232
75°	94	88	82	78	86	101
85°	13	15	16	17	19	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	<i>1151.2</i>	<i>1151.2</i>	<i>1151.2</i>	<i>1151.2</i>	<i>1151.2</i>
2.5°	<i>1143.2</i>	1143.2	1143.2	1141.9	1141.9
5°	<i>1131.3</i>	1129.9	1129.9	1128.6	1128.6
7.5°	<i>1121.9</i>	1120.6	1119.3	1117.9	1115.3
10°	<i>1108.6</i>	1108.6	1107.3	1100.6	1099.3
12.5°	<i>1087.3</i>	1086.0	1080.7	1071.4	1068.7
15°	<i>1058.1</i>	1058.1	1047.4	1036.8	1032.8
17.5°	<i>1026.1</i>	1024.8	1011.5	1000.8	995.5
20°	<i>991.5</i>	988.8	975.5	958.2	948.9
22.5°	<i>952.9</i>	952.9	936.9	914.3	905.0
25°	<i>917.0</i>	911.7	897.0	865.1	841.1
27.5°	<i>875.7</i>	867.7	851.8	806.5	778.6
30°	<i>830.5</i>	826.5	803.9	745.3	724.0
32.5°	<i>787.9</i>	781.2	757.3	696.1	678.8
35°	<i>744.0</i>	738.6	702.7	649.5	633.5
37.5°	<i>700.0</i>	693.4	648.1	605.6	585.6
40°	<i>656.1</i>	648.1	598.9	560.3	539.0
42.5°	<i>614.9</i>	604.2	556.3	515.1	491.1
45°	<i>570.9</i>	559.0	511.1	468.5	449.8
47.5°	<i>527.0</i>	516.4	472.5	428.5	407.3
50°	<i>480.4</i>	471.1	431.2	387.3	364.7
52.5°	<i>441.9</i>	427.2	388.6	344.7	326.1
55°	<i>396.6</i>	384.6	348.7	307.4	291.5
57.5°	<i>355.3</i>	343.4	310.1	271.5	258.2
60°	<i>316.8</i>	299.4	271.5	238.2	227.6
62.5°	<i>274.2</i>	260.9	236.9	208.9	222.3
65°	<i>235.6</i>	222.3	201.0	205.0	170.4
67.5°	<i>193.0</i>	186.3	167.7	149.1	143.7
70°	<i>157.0</i>	149.1	142.4	122.4	117.1
72.5°	<i>125.1</i>	117.1	107.8	97.2	93.2
75°	<i>94.5</i>	87.8	82.5	78.5	86.5
77.5°	<i>65.2</i>	62.6	58.6	54.6	53.2
80°	<i>42.6</i>	41.3	39.9	38.6	37.3
82.5°	<i>25.3</i>	25.3	25.3	25.3	25.3
85°	<i>13.3</i>	14.6	16.0	17.3	18.6
87.5°	<i>8.0</i>	8.0	9.3	10.6	12.0
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

(END OF REPORT)