

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: P558928

Luminaire Tested: FSR-12-1-LD4-1STD-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558928  
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-12-1-LD4-1STD-40-UNV-82-84-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

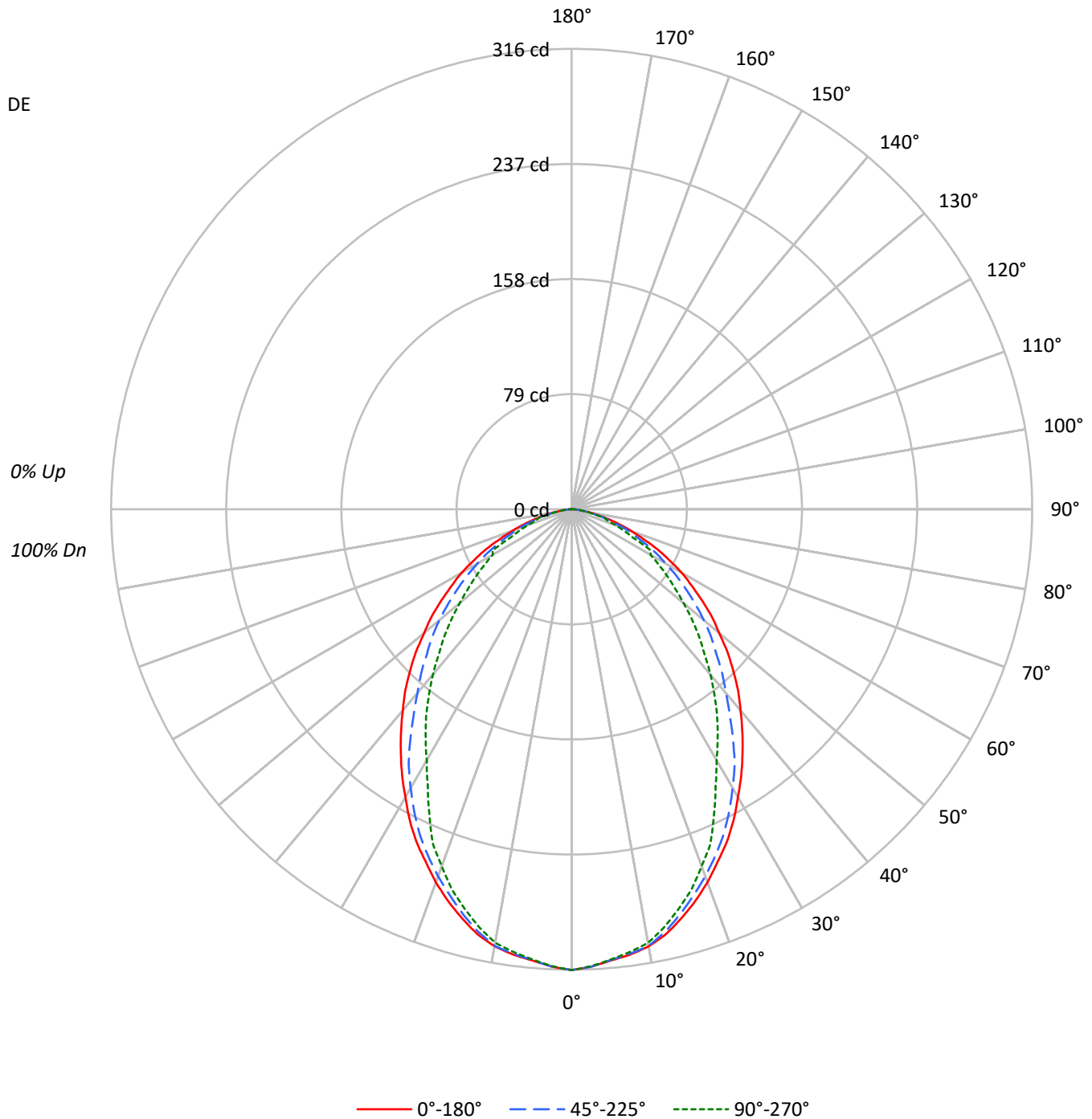
Lumens per Lamp: N/A  
Luminaire Lumens: 621.0 lumens  
Efficiency: N/A  
Efficacy: 74.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 8.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3405	3405	3405
5°	3358	3355	3351
10°	3329	3326	3302
15°	3239	3207	3163
20°	3120	3071	2986
25°	2993	2928	2745
30°	2836	2746	2472
35°	2686	2537	2288
40°	2533	2313	2081
45°	2388	2137	1881
50°	2210	1984	1678
55°	2046	1798	1503
60°	1873	1606	1345
65°	1648	1406	1192
70°	1360	1231	1013
75°	1081	944	990
80°	725	682	632
85°	457	543	630

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2388 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.4	4.7
10°-20°	80.8	13.0
20°-30°	111.9	18.0
30°-40°	119.3	19.2
40°-50°	108.8	17.5
50°-60°	85.3	13.7
60°-70°	55.6	8.9
70°-80°	24.6	4.0
80°-90°	5.3	0.8
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°	222.1	35.8
0°-40°	341.4	55.0
0°-60°	535.5	86.2
0°-90°	621.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	621.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	316	316	316	316	316	
5°	311	310	310	310	310	30
15°	291	291	288	285	284	82
25°	252	250	246	238	231	116
35°	204	203	193	178	174	128
45°	157	154	140	129	124	121
55°	109	106	96	84	80	98
65°	65	61	55	56	47	64
75°	26	24	23	22	24	28
85°	4	4	4	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	<i>316.3</i>	<i>316.3</i>	<i>316.3</i>	<i>316.3</i>	<i>316.3</i>
2.5°	<i>314.1</i>	314.1	314.1	313.8	313.8
5°	<i>310.8</i>	310.5	310.5	310.1	310.1
7.5°	<i>308.3</i>	307.9	307.6	307.2	306.5
10°	<i>304.6</i>	304.6	304.3	302.4	302.1
12.5°	<i>298.8</i>	298.4	296.9	294.4	293.7
15°	<i>290.7</i>	290.7	287.8	284.9	283.8
17.5°	<i>282.0</i>	281.6	277.9	275.0	273.5
20°	<i>272.4</i>	271.7	268.1	263.3	260.7
22.5°	<i>261.8</i>	261.8	257.5	251.2	248.7
25°	<i>252.0</i>	250.5	246.5	237.7	231.1
27.5°	<i>240.6</i>	238.4	234.0	221.6	213.9
30°	<i>228.2</i>	227.1	220.9	204.8	198.9
32.5°	<i>216.5</i>	214.7	208.1	191.3	186.5
35°	<i>204.4</i>	203.0	193.1	178.5	174.1
37.5°	<i>192.4</i>	190.5	178.1	166.4	160.9
40°	<i>180.3</i>	178.1	164.6	154.0	148.1
42.5°	<i>169.0</i>	166.0	152.9	141.5	134.9
45°	<i>156.9</i>	153.6	140.4	128.7	123.6
47.5°	<i>144.8</i>	141.9	129.8	117.8	111.9
50°	<i>132.0</i>	129.5	118.5	106.4	100.2
52.5°	<i>121.4</i>	117.4	106.8	94.7	89.6
55°	<i>109.0</i>	105.7	95.8	84.5	80.1
57.5°	<i>97.6</i>	94.4	85.2	74.6	70.9
60°	<i>87.0</i>	82.3	74.6	65.5	62.5
62.5°	<i>75.3</i>	71.7	65.1	57.4	61.1
65°	<i>64.7</i>	61.1	55.2	56.3	46.8
67.5°	<i>53.0</i>	51.2	46.1	41.0	39.5
70°	<i>43.2</i>	41.0	39.1	33.6	32.2
72.5°	<i>34.4</i>	32.2	29.6	26.7	25.6
75°	<i>26.0</i>	24.1	22.7	21.6	23.8
77.5°	<i>17.9</i>	17.2	16.1	15.0	14.6
80°	<i>11.7</i>	11.3	11.0	10.6	10.2
82.5°	<i>6.9</i>	6.9	6.9	6.9	6.9
85°	<i>3.7</i>	4.0	4.4	4.8	5.1
87.5°	<i>2.2</i>	2.2	2.6	2.9	3.3
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

(END OF REPORT)