

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: P560009

Luminaire Tested: FSR-12-2-LD4-1STD-35-UNV-81-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560009  
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-LD4-1STD-35-UNV-81-88-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

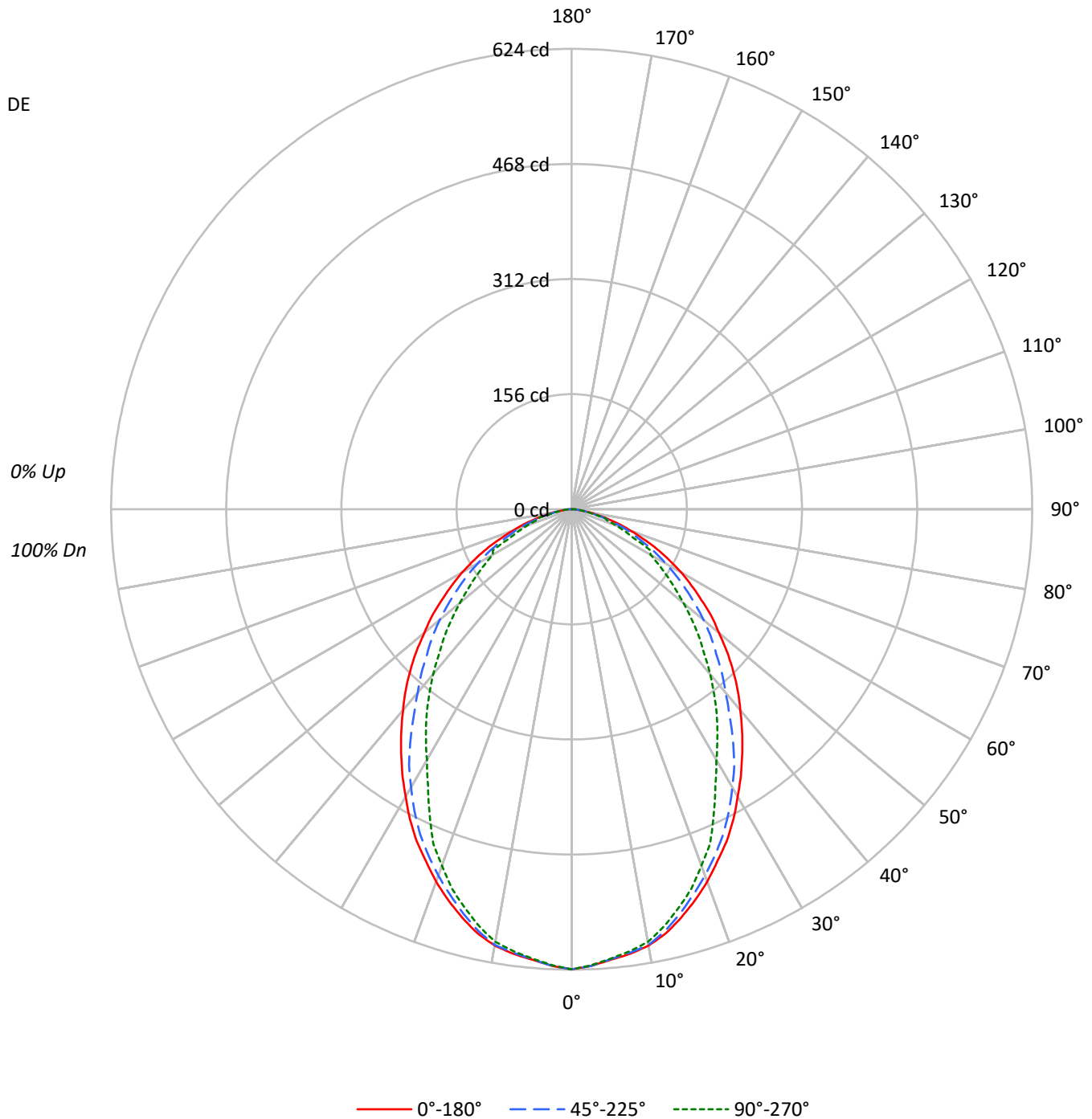
Lumens per Lamp: N/A  
Luminaire Lumens: 1224.0 lumens  
Efficiency: N/A  
Efficacy: 73.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3356	3356	3356
5°	3310	3306	3302
10°	3281	3277	3254
15°	3193	3161	3116
20°	3076	3026	2943
25°	2949	2885	2705
30°	2795	2706	2437
35°	2647	2501	2254
40°	2497	2279	2051
45°	2353	2107	1854
50°	2179	1955	1654
55°	2016	1772	1482
60°	1846	1582	1327
65°	1625	1386	1175
70°	1339	1213	998
75°	1065	930	975
80°	716	669	626
85°	445	531	624

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2353 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.0	4.7
10°-20°	159.3	13.0
20°-30°	220.5	18.0
30°-40°	235.1	19.2
40°-50°	214.5	17.5
50°-60°	168.0	13.7
60°-70°	109.5	8.9
70°-80°	48.5	4.0
80°-90°	10.4	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°	437.8	35.8
0°-40°	673.0	55.0
0°-60°	1055.5	86.2
0°-90°	1224.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1224.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	613	612	612	611	611	58
15°	573	573	567	562	559	161
25°	497	494	486	468	456	228
35°	403	400	381	352	343	252
45°	309	303	277	254	244	238
55°	215	208	189	166	158	193
65°	128	120	109	111	92	126
75°	51	48	45	42	47	55
85°	7	8	9	9	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	623.5	623.5	623.5	623.5	623.5
2.5°	619.2	619.2	619.2	618.4	618.4
5°	612.7	612.0	612.0	611.2	611.2
7.5°	607.6	606.9	606.2	605.5	604.0
10°	600.4	600.4	599.7	596.1	595.4
12.5°	588.9	588.2	585.3	580.2	578.8
15°	573.0	573.0	567.3	561.5	559.3
17.5°	555.7	555.0	547.8	542.0	539.2
20°	537.0	535.6	528.3	519.0	513.9
22.5°	516.1	516.1	507.4	495.2	490.1
25°	496.6	493.7	485.8	468.5	455.5
27.5°	474.3	470.0	461.3	436.8	421.7
30°	449.8	447.6	435.4	403.6	392.1
32.5°	426.7	423.1	410.1	377.0	367.6
35°	402.9	400.0	380.6	351.7	343.1
37.5°	379.1	375.5	351.0	328.0	317.2
40°	355.4	351.0	324.4	303.5	291.9
42.5°	333.0	327.2	301.3	278.9	266.0
45°	309.2	302.7	276.8	253.7	243.6
47.5°	285.4	279.7	255.9	232.1	220.6
50°	260.2	255.2	233.5	209.8	197.5
52.5°	239.3	231.4	210.5	186.7	176.6
55°	214.8	208.3	188.8	166.5	157.9
57.5°	192.5	186.0	167.9	147.0	139.8
60°	171.5	162.2	147.0	129.0	123.3
62.5°	148.5	141.3	128.3	113.2	120.4
65°	127.6	120.4	108.8	111.0	92.3
67.5°	104.5	100.9	90.8	80.7	77.8
70°	85.1	80.7	77.1	66.3	63.4
72.5°	67.8	63.4	58.4	52.6	50.5
75°	51.2	47.6	44.7	42.5	46.9
77.5°	35.3	33.9	31.7	29.6	28.8
80°	23.1	22.3	21.6	20.9	20.2
82.5°	13.7	13.7	13.7	13.7	13.7
85°	7.2	7.9	8.6	9.4	10.1
87.5°	4.3	4.3	5.0	5.8	6.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)