

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: P559701

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-82-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559701  
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-LD4-1HI-40-UNV-82-86-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

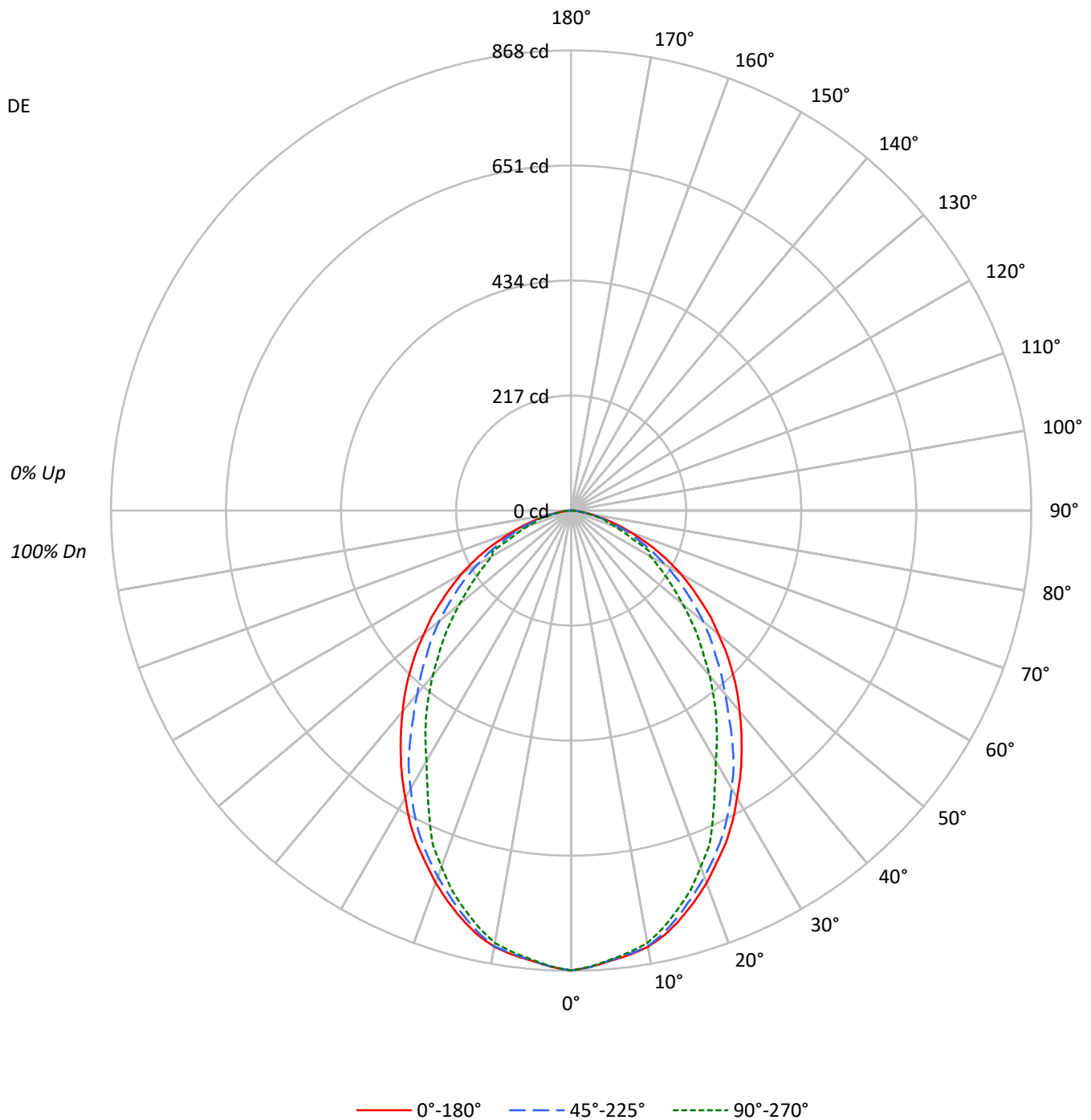
Lumens per Lamp: N/A  
Luminaire Lumens: 1703.0 lumens  
Efficiency: N/A  
Efficacy: 78.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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				
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°	4669	4669	4669
5°	4605	4600	4594
10°	4565	4560	4527
15°	4442	4398	4336
20°	4279	4210	4095
25°	4103	4014	3764
30°	3889	3764	3391
35°	3683	3479	3137
40°	3473	3171	2854
45°	3274	2931	2580
50°	3031	2720	2301
55°	2805	2466	2061
60°	2569	2202	1846
65°	2260	1928	1635
70°	1862	1688	1389
75°	1481	1293	1356
80°	995	933	871
85°	618	741	865

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3274 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.8	4.7
10°-20°	221.6	13.0
20°-30°	306.8	18.0
30°-40°	327.1	19.2
40°-50°	298.4	17.5
50°-60°	233.8	13.7
60°-70°	152.4	8.9
70°-80°	67.5	4.0
80°-90°	14.5	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°	609.2	35.8
0°-40°	936.3	55.0
0°-60°	1468.6	86.2
0°-90°	1703.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1703.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	868	868	868	868	868	
5°	852	851	851	850	850	81
15°	797	797	789	781	778	224
25°	691	687	676	652	634	317
35°	561	557	530	489	477	350
45°	430	421	385	353	339	331
55°	299	290	263	232	220	268
65°	178	168	151	154	128	175
75°	71	66	62	59	65	76
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	867.5	867.5	867.5	867.5	867.5
2.5°	861.5	861.5	861.5	860.5	860.5
5°	852.4	851.4	851.4	850.4	850.4
7.5°	845.4	844.4	843.4	842.4	840.4
10°	835.4	835.4	834.4	829.4	828.4
12.5°	819.3	818.3	814.3	807.3	805.3
15°	797.3	797.3	789.3	781.2	778.2
17.5°	773.2	772.2	762.2	754.2	750.1
20°	747.1	745.1	735.1	722.1	715.0
22.5°	718.1	718.1	706.0	689.0	682.0
25°	691.0	687.0	675.9	651.9	633.8
27.5°	659.9	653.9	641.8	607.7	586.7
30°	625.8	622.8	605.7	561.6	545.6
32.5°	593.7	588.7	570.6	524.5	511.5
35°	560.6	556.6	529.5	489.4	477.4
37.5°	527.5	522.5	488.4	456.3	441.3
40°	494.4	488.4	451.3	422.2	406.2
42.5°	463.3	455.3	419.2	388.1	370.1
45°	430.2	421.2	385.1	353.0	339.0
47.5°	397.1	389.1	356.0	322.9	306.9
50°	362.0	355.0	324.9	291.8	274.8
52.5°	333.0	321.9	292.8	259.7	245.7
55°	298.9	289.8	262.8	231.7	219.6
57.5°	267.8	258.7	233.7	204.6	194.6
60°	238.7	225.6	204.6	179.5	171.5
62.5°	206.6	196.6	178.5	157.5	167.5
65°	177.5	167.5	151.4	154.4	128.4
67.5°	145.4	140.4	126.4	112.3	108.3
70°	118.3	112.3	107.3	92.3	88.3
72.5°	94.3	88.3	81.2	73.2	70.2
75°	71.2	66.2	62.2	59.2	65.2
77.5°	49.1	47.1	44.1	41.1	40.1
80°	32.1	31.1	30.1	29.1	28.1
82.5°	19.1	19.1	19.1	19.1	19.1
85°	10.0	11.0	12.0	13.0	14.0
87.5°	6.0	6.0	7.0	8.0	9.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)