

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: P560174

Luminaire Tested: FSR-12-2-LD4-1STD-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560174  
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-50-UNV-93-97-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

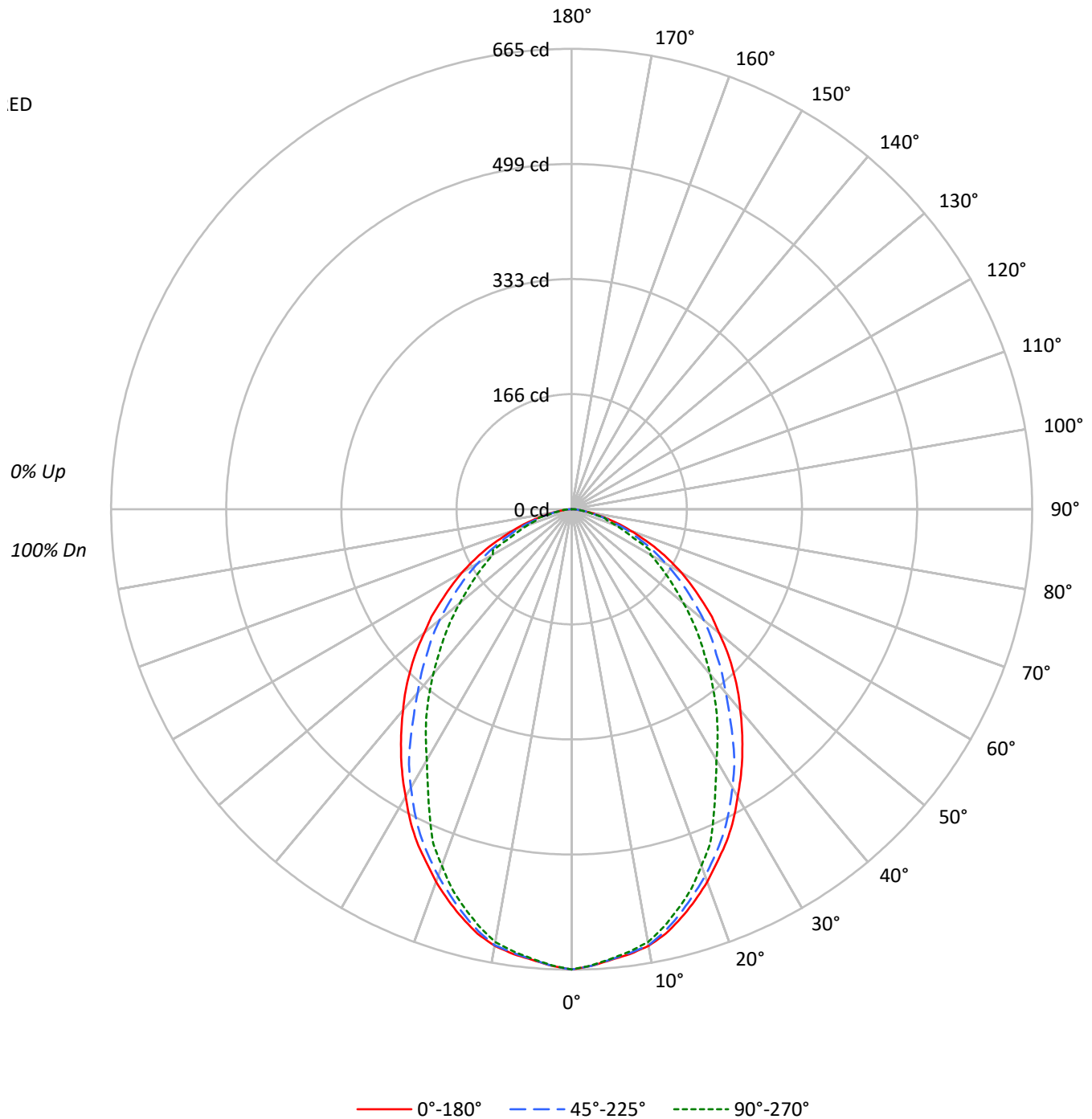
Lumens per Lamp: N/A  
Luminaire Lumens: 1305.0 lumens  
Efficiency: N/A  
Efficacy: 78.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3577	3577	3577
5°	3529	3525	3521
10°	3499	3494	3469
15°	3404	3370	3323
20°	3279	3226	3138
25°	3144	3076	2884
30°	2980	2885	2598
35°	2823	2666	2403
40°	2662	2429	2186
45°	2509	2246	1977
50°	2323	2085	1763
55°	2149	1889	1579
60°	1969	1688	1414
65°	1732	1477	1253
70°	1427	1293	1064
75°	1135	990	1040
80°	762	716	666
85°	475	568	667

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2509 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.9	4.7
10°-20°	169.8	13.0
20°-30°	235.1	18.0
30°-40°	250.7	19.2
40°-50°	228.7	17.5
50°-60°	179.2	13.7
60°-70°	116.8	8.9
70°-80°	51.7	4.0
80°-90°	11.1	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°	466.8	35.8
0°-40°	717.5	55.0
0°-60°	1125.4	86.2
0°-90°	1305.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1305.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	665	665	665	665	665	
5°	653	652	652	652	652	62
15°	611	611	605	599	596	172
25°	530	526	518	500	486	243
35°	430	426	406	375	366	269
45°	330	323	295	270	260	254
55°	229	222	201	178	168	205
65°	136	128	116	118	98	134
75°	55	51	48	45	50	58
85°	8	8	9	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	664.7	664.7	664.7	664.7	664.7
2.5°	660.1	660.1	660.1	659.4	659.4
5°	653.2	652.5	652.5	651.7	651.7
7.5°	647.8	647.1	646.3	645.5	644.0
10°	640.2	640.2	639.4	635.5	634.8
12.5°	627.9	627.1	624.0	618.6	617.1
15°	611.0	611.0	604.8	598.7	596.4
17.5°	592.5	591.7	584.1	577.9	574.8
20°	572.5	571.0	563.3	553.3	547.9
22.5°	550.2	550.2	541.0	528.0	522.6
25°	529.5	526.4	518.0	499.5	485.7
27.5°	505.7	501.1	491.8	465.7	449.6
30°	479.5	477.2	464.2	430.4	418.1
32.5°	454.9	451.1	437.3	401.9	391.9
35°	429.6	426.5	405.8	375.0	365.8
37.5°	404.2	400.4	374.3	349.7	338.1
40°	378.9	374.3	345.8	323.5	311.2
42.5°	355.0	348.9	321.2	297.4	283.6
45°	329.7	322.8	295.1	270.5	259.8
47.5°	304.3	298.2	272.8	247.5	235.2
50°	277.4	272.0	249.0	223.6	210.6
52.5°	255.1	246.7	224.4	199.0	188.3
55°	229.0	222.1	201.3	177.5	168.3
57.5°	205.2	198.3	179.1	156.8	149.1
60°	182.9	172.9	156.8	137.6	131.4
62.5°	158.3	150.6	136.8	120.7	128.3
65°	136.0	128.3	116.0	118.3	98.4
67.5°	111.4	107.6	96.8	86.1	83.0
70°	90.7	86.1	82.2	70.7	67.6
72.5°	72.2	67.6	62.2	56.1	53.8
75°	54.6	50.7	47.6	45.3	50.0
77.5°	37.7	36.1	33.8	31.5	30.7
80°	24.6	23.8	23.1	22.3	21.5
82.5°	14.6	14.6	14.6	14.6	14.6
85°	7.7	8.5	9.2	10.0	10.8
87.5°	4.6	4.6	5.4	6.1	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)