

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: P559714

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559714  
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-93-85-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

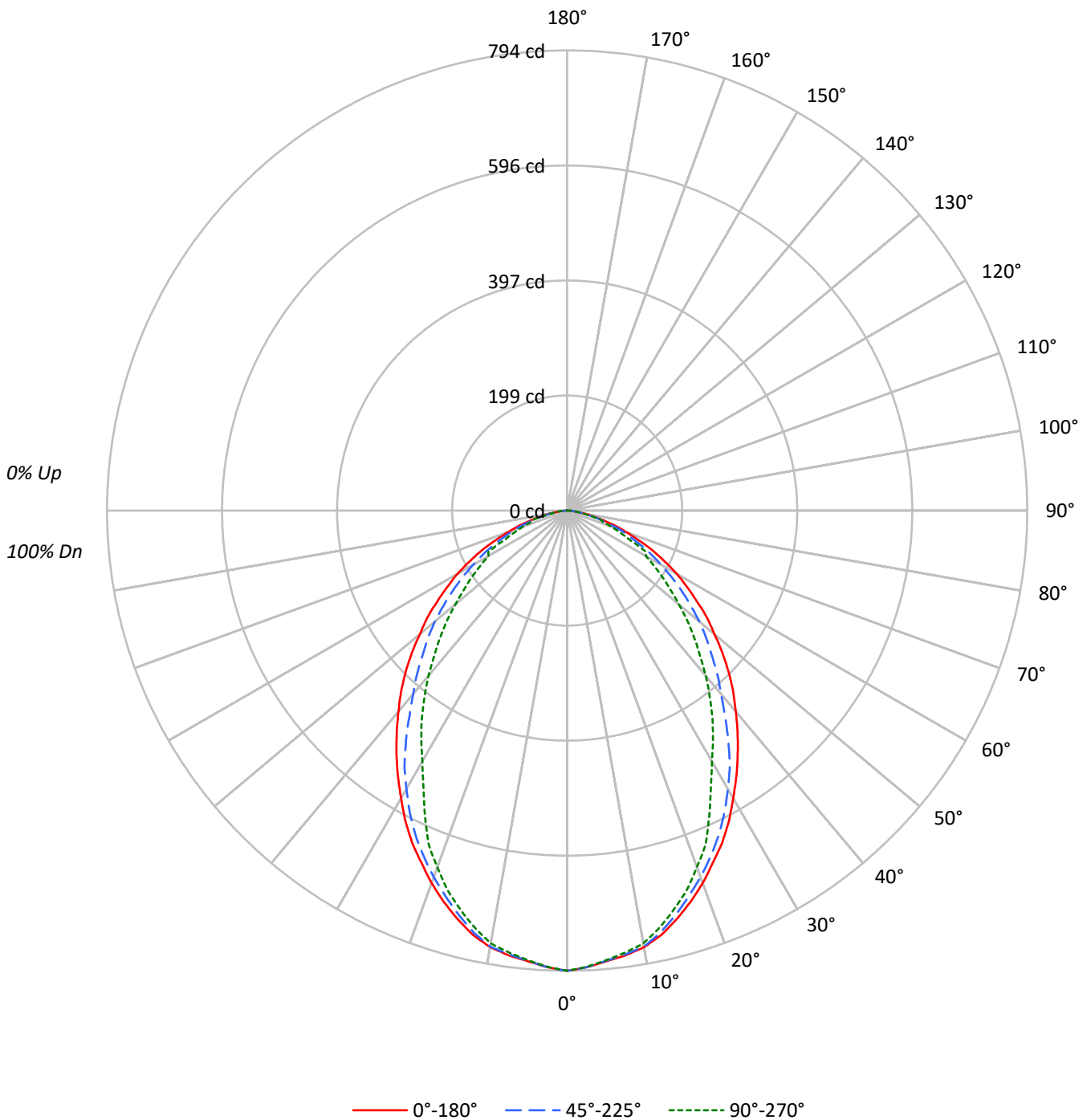
Lumens per Lamp: N/A  
Luminaire Lumens: 1559.0 lumens  
Efficiency: N/A  
Efficacy: 72.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4274	4274	4274
5°	4216	4211	4206
10°	4180	4174	4144
15°	4067	4026	3969
20°	3918	3854	3749
25°	3757	3675	3445
30°	3560	3446	3104
35°	3372	3185	2871
40°	3180	2902	2612
45°	2998	2683	2362
50°	2775	2491	2107
55°	2567	2257	1887
60°	2352	2016	1690
65°	2069	1765	1496
70°	1704	1545	1271
75°	1356	1183	1241
80°	911	852	797
85°	568	679	797

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2998 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.9	4.7
10°-20°	202.9	13.0
20°-30°	280.9	18.0
30°-40°	299.5	19.2
40°-50°	273.2	17.5
50°-60°	214.1	13.7
60°-70°	139.5	8.9
70°-80°	61.8	4.0
80°-90°	13.3	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°	557.7	35.8
0°-40°	857.1	55.0
0°-60°	1344.4	86.2
0°-90°	1559.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1559.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	794	794	794	794	794	
5°	780	779	779	778	778	74
15°	730	730	722	715	712	205
25°	633	629	619	597	580	290
35°	513	510	485	448	437	321
45°	394	386	352	323	310	303
55°	274	265	240	212	201	245
65°	162	153	139	141	118	160
75°	65	61	57	54	60	70
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	794.1	794.1	794.1	794.1	794.1
2.5°	788.6	788.6	788.6	787.7	787.7
5°	780.4	779.4	779.4	778.5	778.5
7.5°	773.9	773.0	772.1	771.2	769.3
10°	764.8	764.8	763.8	759.2	758.3
12.5°	750.1	749.1	745.5	739.0	737.2
15°	729.9	729.9	722.5	715.2	712.4
17.5°	707.8	706.9	697.7	690.4	686.7
20°	684.0	682.1	672.9	661.0	654.6
22.5°	657.3	657.3	646.3	630.7	624.3
25°	632.6	628.9	618.8	596.7	580.2
27.5°	604.1	598.6	587.6	556.4	537.1
30°	572.9	570.1	554.5	514.1	499.4
32.5°	543.5	538.9	522.4	480.2	468.2
35°	513.2	509.5	484.7	448.0	437.0
37.5°	482.9	478.3	447.1	417.7	404.0
40°	452.6	447.1	413.1	386.5	371.8
42.5°	424.2	416.8	383.8	355.3	338.8
45°	393.9	385.6	352.5	323.2	310.3
47.5°	363.6	356.2	325.9	295.6	280.9
50°	331.4	325.0	297.5	267.2	251.6
52.5°	304.8	294.7	268.1	237.8	224.9
55°	273.6	265.3	240.5	212.1	201.1
57.5°	245.1	236.9	213.9	187.3	178.1
60°	218.5	206.6	187.3	164.3	157.0
62.5°	189.1	179.9	163.4	144.1	153.3
65°	162.5	153.3	138.6	141.4	117.5
67.5°	133.1	128.5	115.7	102.8	99.2
70°	108.3	102.8	98.2	84.5	80.8
72.5°	86.3	80.8	74.4	67.0	64.3
75°	65.2	60.6	56.9	54.2	59.7
77.5°	45.0	43.1	40.4	37.6	36.7
80°	29.4	28.5	27.5	26.6	25.7
82.5°	17.4	17.4	17.4	17.4	17.4
85°	9.2	10.1	11.0	11.9	12.9
87.5°	5.5	5.5	6.4	7.3	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)