

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: P590254

Luminaire Tested: FSR-24-2-LD4-2LO-35-UNV-93-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590254  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-2LO-35-UNV-93-85-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

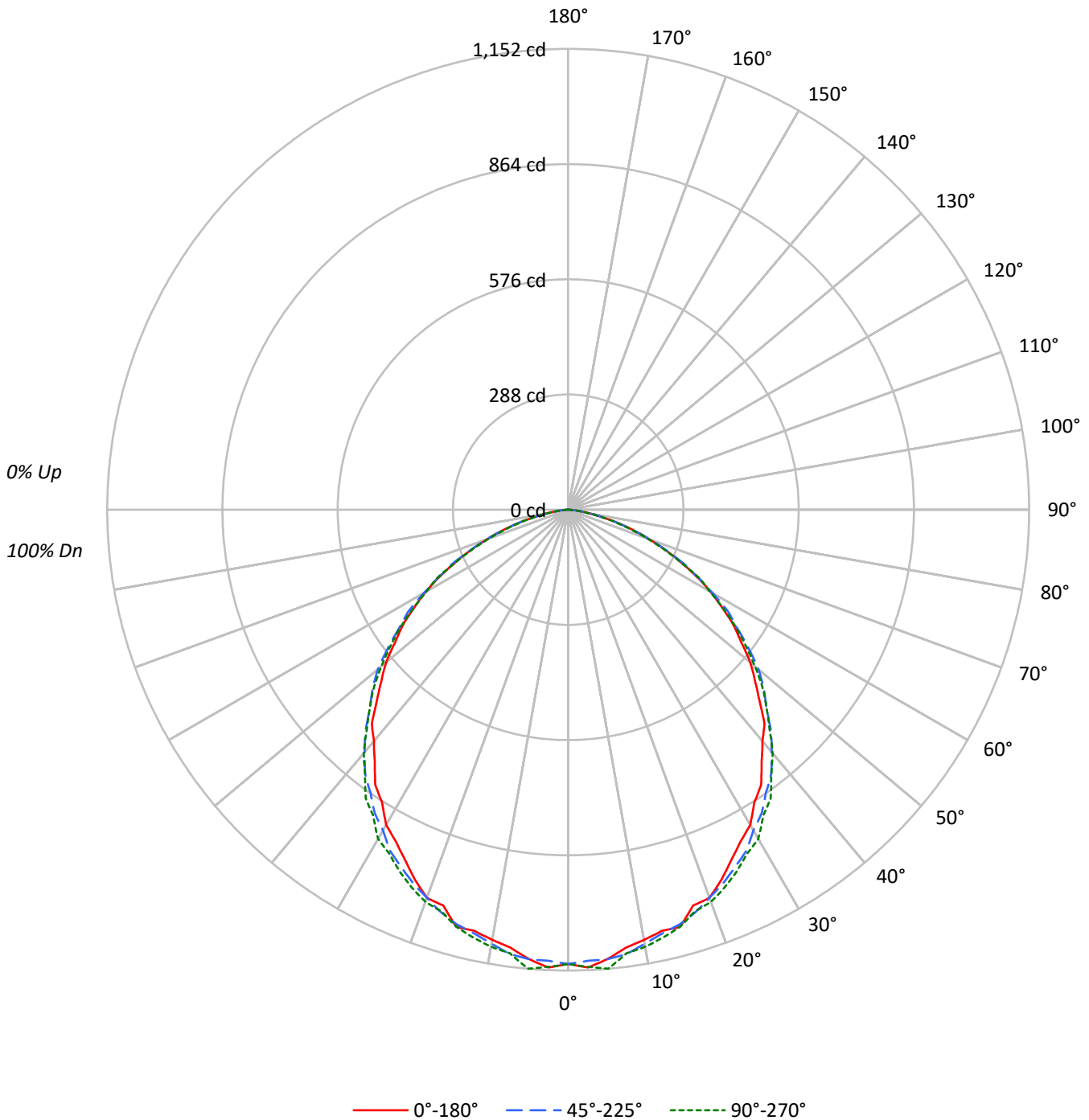
Lumens per Lamp: N/A  
Luminaire Lumens: 2862.0 lumens  
Efficiency: N/A  
Efficacy: 122.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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																		
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86									86																			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73									73																			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62									62																			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53									53																			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46									46																			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41									41																			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36									36																			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32									32																			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29									29																			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26									26																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3056	3056	3056
5°	3046	3047	3111
10°	2984	3010	3031
15°	3008	2991	3008
20°	2957	2957	2988
25°	2866	2928	2961
30°	2826	2876	2953
35°	2760	2832	2896
40°	2653	2780	2793
45°	2572	2664	2668
50°	2488	2600	2550
55°	2371	2417	2399
60°	2217	2239	2199
65°	1976	2027	1962
70°	1696	1702	1655
75°	1343	1340	1288
80°	900	874	840
85°	488	485	454

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2732 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.8	3.7
10°-20°	302.7	10.6
20°-30°	453.6	15.8
30°-40°	537.6	18.8
40°-50°	538.6	18.8
50°-60°	457.2	16.0
60°-70°	308.2	10.8
70°-80°	135.4	4.7
80°-90°	22.0	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°	863.1	30.2
0°-40°	1400.7	48.9
0°-60°	2396.4	83.7
0°-90°	2862.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2862.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1136	1136	1136	1136	1136	
5°	1128	1125	1128	1125	1152	106
15°	1080	1067	1074	1079	1080	301
25°	965	970	986	999	997	446
35°	840	843	862	882	882	522
45°	676	688	700	718	701	523
55°	505	502	515	512	511	449
65°	310	306	318	306	308	309
75°	129	126	129	120	124	138
85°	16	15	16	15	15	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1135.6	1135.6	1135.6	1135.6	1135.6
2.5°	1145.4	1136.7	1128.7	1138.1	1143.8
5°	1127.5	1124.9	1127.9	1124.6	1151.7
7.5°	1104.3	1114.5	1120.3	1116.7	1118.3
10°	1092.0	1088.5	1101.6	1110.6	1109.3
12.5°	1078.8	1084.1	1084.8	1094.7	1095.5
15°	1079.6	1067.1	1073.7	1079.3	1079.7
17.5°	1037.6	1051.1	1055.7	1068.4	1052.6
20°	1032.5	1022.7	1032.5	1045.5	1043.5
22.5°	1001.0	990.0	1011.1	1022.7	1021.9
25°	965.2	970.5	986.3	999.2	997.2
27.5°	933.8	940.0	962.6	980.3	968.9
30°	909.6	906.5	925.6	941.4	950.2
32.5°	866.4	877.5	899.8	915.5	907.1
35°	840.1	842.6	862.1	882.1	881.5
37.5°	794.2	805.8	833.2	838.8	833.7
40°	755.1	766.7	791.5	797.5	795.0
42.5°	726.2	728.3	749.5	756.4	745.4
45°	675.9	688.5	700.0	718.0	701.0
47.5°	633.1	639.0	663.6	668.4	659.5
50°	594.2	596.3	621.1	615.1	609.2
52.5°	545.4	554.1	568.0	566.8	559.9
55°	505.3	501.9	515.1	511.6	511.4
57.5°	457.0	462.9	473.7	468.2	459.2
60°	411.9	412.0	416.0	409.7	408.5
62.5°	361.6	363.3	364.2	356.4	369.0
65°	310.4	306.3	318.3	306.1	308.2
67.5°	263.3	265.4	264.2	256.6	259.5
70°	215.5	218.2	216.3	207.6	210.3
72.5°	171.8	168.6	170.7	159.8	164.8
75°	129.2	126.5	128.9	119.8	123.9
77.5°	88.0	90.0	88.6	83.7	86.5
80°	58.1	56.4	56.4	53.7	54.2
82.5°	33.9	32.3	31.8	30.9	32.3
85°	15.8	15.4	15.7	15.2	14.7
87.5°	5.7	5.9	5.9	5.6	5.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)