

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: P561007

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561007  
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-12-4-LD4-1LO-35-UNV-93-97-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

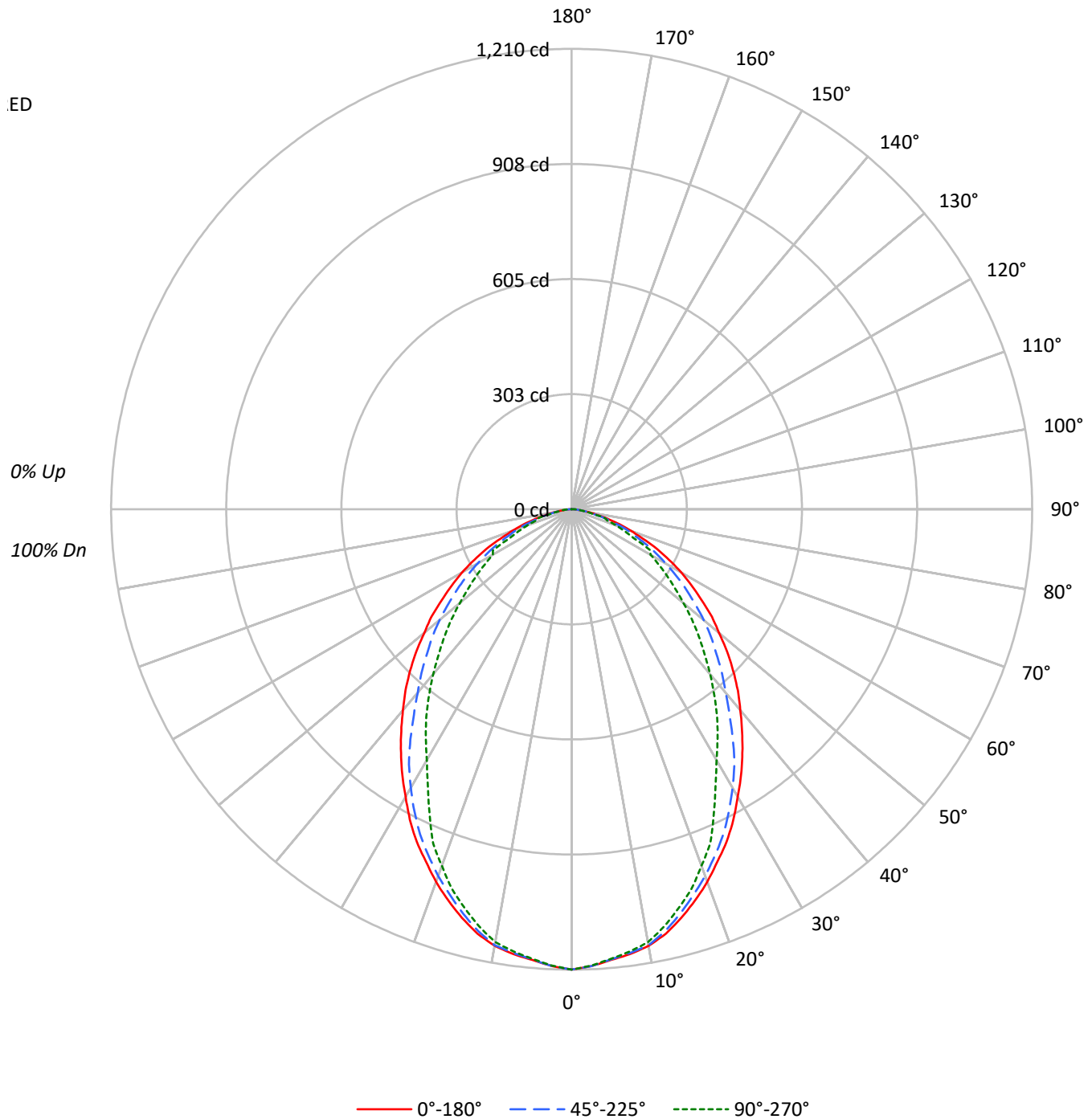
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2375.0 lumens  
Efficiency: N/A  
Efficacy: 101.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' 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									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°	3256	3256	3256
5°	3211	3207	3204
10°	3183	3180	3157
15°	3098	3066	3024
20°	2984	2936	2856
25°	2861	2799	2624
30°	2712	2625	2364
35°	2568	2426	2187
40°	2422	2211	1990
45°	2283	2044	1799
50°	2114	1897	1604
55°	1955	1719	1437
60°	1792	1535	1287
65°	1577	1345	1140
70°	1298	1178	969
75°	1032	901	945
80°	694	651	607
85°	432	519	605

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2283 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.6	4.7
10°-20°	309.1	13.0
20°-30°	427.9	18.0
30°-40°	456.2	19.2
40°-50°	416.2	17.5
50°-60°	326.1	13.7
60°-70°	212.5	8.9
70°-80°	94.2	4.0
80°-90°	20.2	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°	849.6	35.8
0°-40°	1305.8	55.0
0°-60°	2048.1	86.2
0°-90°	2375.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2375.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1210	1210	1210	1210	1210	
5°	1189	1187	1187	1186	1186	113
15°	1112	1112	1101	1090	1085	313
25°	964	958	943	909	884	442
35°	782	776	738	682	666	489
45°	600	587	537	492	473	462
55°	417	404	366	323	306	374
65°	248	234	211	215	179	244
75°	99	92	87	82	91	106
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1209.8	1209.8	1209.8	1209.8	1209.8
2.5°	1201.4	1201.4	1201.4	1200.0	1200.0
5°	1188.8	1187.4	1187.4	1186.0	1186.0
7.5°	1179.0	1177.6	1176.2	1174.8	1172.0
10°	1165.0	1165.0	1163.6	1156.6	1155.2
12.5°	1142.7	1141.3	1135.7	1125.9	1123.1
15°	1111.9	1111.9	1100.7	1089.5	1085.3
17.5°	1078.3	1076.9	1062.9	1051.8	1046.2
20°	1042.0	1039.2	1025.2	1007.0	997.2
22.5°	1001.4	1001.4	984.6	960.8	951.1
25°	963.6	958.0	942.7	909.1	883.9
27.5°	920.3	911.9	895.1	847.6	818.2
30°	872.7	868.5	844.8	783.2	760.8
32.5°	828.0	821.0	795.8	731.5	713.3
35°	781.8	776.2	738.5	682.5	665.7
37.5°	735.7	728.7	681.1	636.4	615.4
40°	689.5	681.1	629.4	588.8	566.4
42.5°	646.2	635.0	584.6	541.3	516.1
45°	600.0	587.4	537.1	492.3	472.7
47.5°	553.8	542.7	496.5	450.4	428.0
50°	504.9	495.1	453.1	407.0	383.2
52.5°	464.3	449.0	408.4	362.2	342.7
55°	416.8	404.2	366.4	323.1	306.3
57.5°	373.4	360.8	325.9	285.3	271.3
60°	332.9	314.7	285.3	250.4	239.2
62.5°	288.1	274.1	249.0	219.6	233.6
65°	247.6	233.6	211.2	215.4	179.0
67.5°	202.8	195.8	176.2	156.6	151.0
70°	165.0	156.6	149.7	128.7	123.1
72.5°	131.5	123.1	113.3	102.1	97.9
75°	99.3	92.3	86.7	82.5	90.9
77.5°	68.5	65.7	61.5	57.3	55.9
80°	44.8	43.4	42.0	40.6	39.2
82.5°	26.6	26.6	26.6	26.6	26.6
85°	14.0	15.4	16.8	18.2	19.6
87.5°	8.4	8.4	9.8	11.2	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)