

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: P590258

Luminaire Tested: FSR-24-2-LD4-2LO-35-UNV-93-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590258  
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-93-94-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

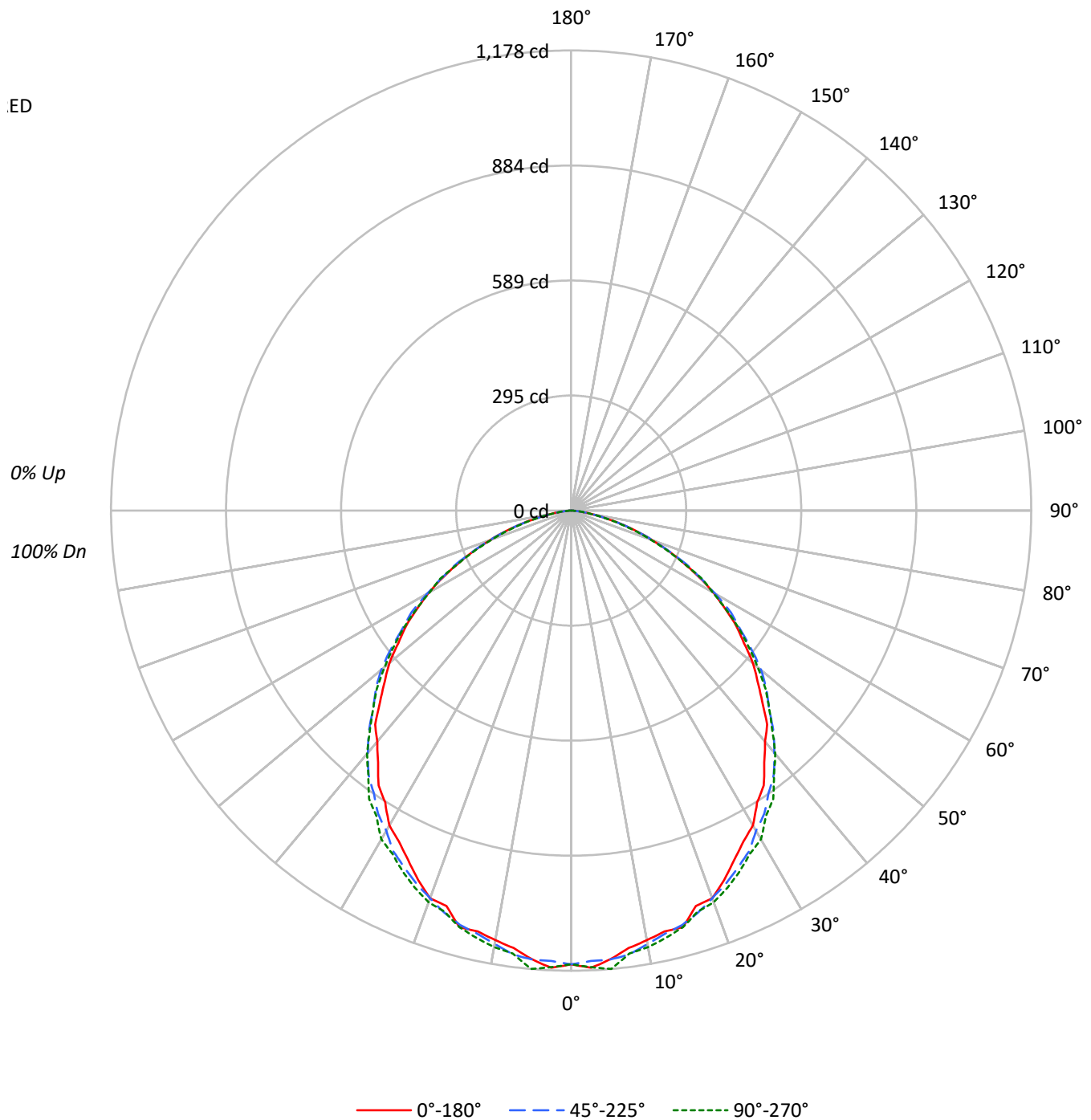
Lumens per Lamp: N/A  
Luminaire Lumens: 2927.0 lumens  
Efficiency: N/A  
Efficacy: 125.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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				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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	3125	3125	3125
5°	3115	3116	3182
10°	3052	3078	3100
15°	3076	3059	3076
20°	3024	3024	3056
25°	2931	2995	3028
30°	2891	2941	3020
35°	2823	2896	2961
40°	2713	2843	2856
45°	2631	2724	2728
50°	2544	2659	2608
55°	2424	2472	2454
60°	2267	2289	2249
65°	2021	2073	2007
70°	1734	1740	1692
75°	1373	1370	1317
80°	921	894	860
85°	500	494	463

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2794 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.2	3.7
10°-20°	309.6	10.6
20°-30°	463.9	15.8
30°-40°	549.8	18.8
40°-50°	550.8	18.8
50°-60°	467.5	16.0
60°-70°	315.2	10.8
70°-80°	138.5	4.7
80°-90°	22.5	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°	882.7	30.2
0°-40°	1432.5	48.9
0°-60°	2450.8	83.7
0°-90°	2927.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2927.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1161	1161	1161	1161	1161	
5°	1153	1150	1154	1150	1178	109
15°	1104	1091	1098	1104	1104	308
25°	987	992	1009	1022	1020	456
35°	859	862	882	902	902	533
45°	691	704	716	734	717	535
55°	517	513	527	523	523	460
65°	317	313	326	313	315	316
75°	132	129	132	122	127	142
85°	16	16	16	16	15	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1161.4	1161.4	1161.4	1161.4	1161.4
2.5°	1171.4	1162.6	1154.3	1163.9	1169.8
5°	1153.1	1150.4	1153.6	1150.1	1177.9
7.5°	1129.4	1139.8	1145.8	1142.0	1143.7
10°	1116.8	1113.2	1126.6	1135.9	1134.5
12.5°	1103.3	1108.7	1109.5	1119.5	1120.4
15°	1104.1	1091.3	1098.1	1103.8	1104.2
17.5°	1061.2	1075.0	1079.6	1092.7	1076.5
20°	1055.9	1045.9	1055.9	1069.3	1067.2
22.5°	1023.7	1012.5	1034.1	1045.9	1045.1
25°	987.1	992.5	1008.7	1021.9	1019.8
27.5°	955.0	961.3	984.4	1002.6	990.9
30°	930.3	927.1	946.6	962.8	971.8
32.5°	886.1	897.4	920.2	936.3	927.7
35°	859.2	861.8	881.7	902.1	901.5
37.5°	812.3	824.1	852.2	857.9	852.6
40°	772.2	784.1	809.4	815.6	813.0
42.5°	742.7	744.8	766.5	773.6	762.3
45°	691.3	704.2	715.9	734.3	716.9
47.5°	647.5	653.5	678.7	683.6	674.5
50°	607.7	609.8	635.2	629.0	623.0
52.5°	557.8	566.7	580.9	579.7	572.7
55°	516.7	513.3	526.8	523.2	523.0
57.5°	467.4	473.4	484.5	478.8	469.6
60°	421.2	421.4	425.4	419.0	417.8
62.5°	369.8	371.6	372.5	364.5	377.4
65°	317.4	313.2	325.5	313.1	315.2
67.5°	269.3	271.4	270.2	262.4	265.4
70°	220.4	223.1	221.2	212.3	215.0
72.5°	175.7	172.4	174.5	163.4	168.5
75°	132.1	129.4	131.8	122.5	126.7
77.5°	90.0	92.1	90.6	85.6	88.5
80°	59.4	57.7	57.7	54.9	55.5
82.5°	34.6	33.0	32.5	31.6	33.0
85°	16.2	15.7	16.0	15.6	15.0
87.5°	5.8	6.0	6.0	5.7	5.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)