

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: P590003

Luminaire Tested: FSR-24-2-LD4-1LO-40-UNV-93-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590003  
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-LD4-1LO-40-UNV-93-96-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

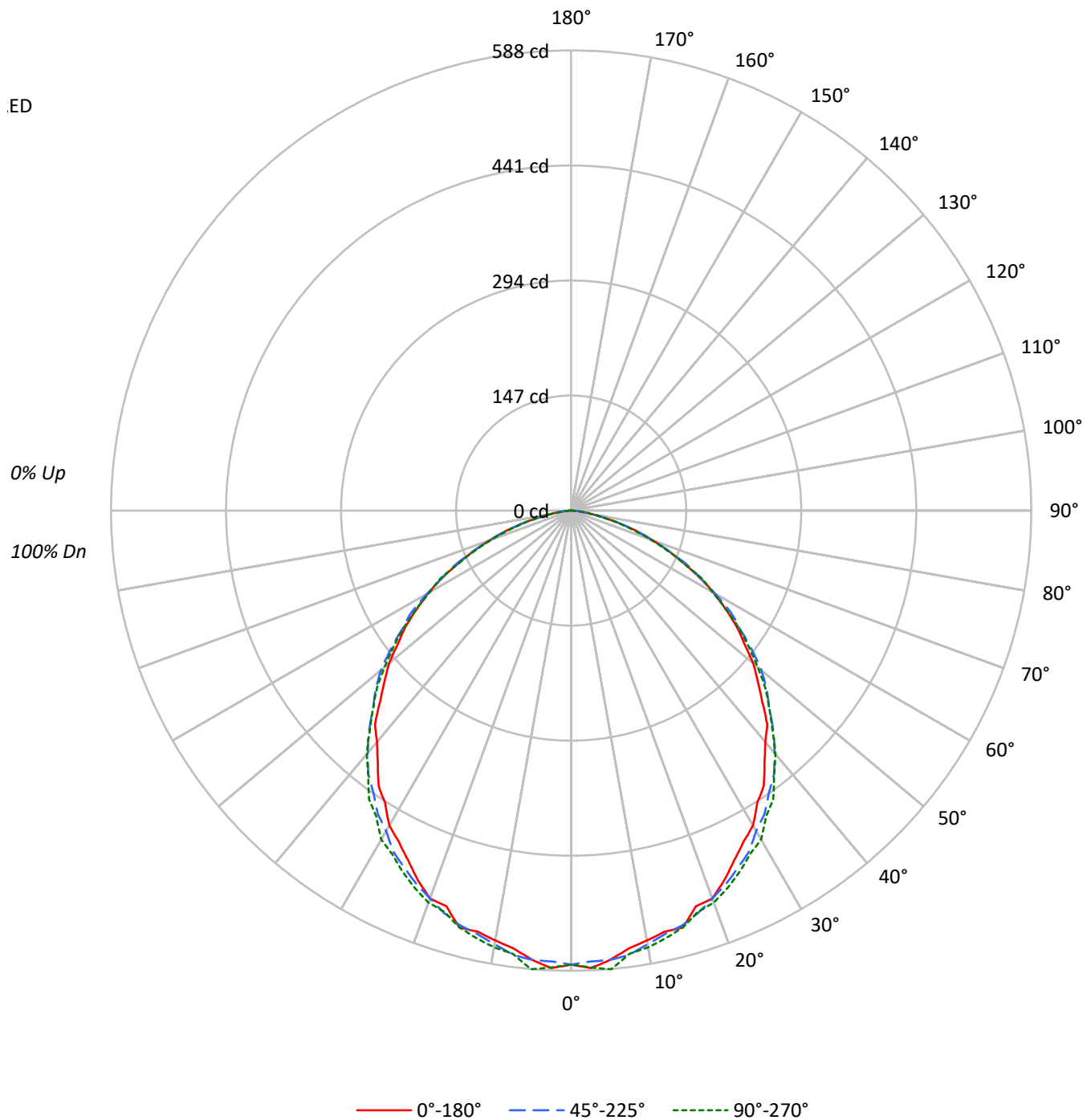
Lumens per Lamp: N/A  
Luminaire Lumens: 1462.0 lumens  
Efficiency: N/A  
Efficacy: 125.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
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°	1561	1561	1561
5°	1556	1556	1589
10°	1524	1538	1549
15°	1536	1528	1536
20°	1510	1510	1526
25°	1464	1496	1512
30°	1444	1469	1508
35°	1410	1447	1479
40°	1355	1420	1427
45°	1314	1361	1363
50°	1271	1328	1303
55°	1211	1234	1225
60°	1132	1144	1123
65°	1010	1035	1002
70°	866	869	845
75°	686	684	658
80°	460	446	429
85°	250	247	232

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1396 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.6	3.7
10°-20°	154.6	10.6
20°-30°	231.7	15.8
30°-40°	274.6	18.8
40°-50°	275.1	18.8
50°-60°	233.5	16.0
60°-70°	157.5	10.8
70°-80°	69.2	4.7
80°-90°	11.2	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°	440.9	30.2
0°-40°	715.5	48.9
0°-60°	1224.1	83.7
0°-90°	1462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1462.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	576	575	576	574	588	54
15°	552	545	548	551	552	154
25°	493	496	504	510	509	228
35°	429	430	440	451	450	266
45°	345	352	358	367	358	267
55°	258	256	263	261	261	230
65°	159	156	163	156	157	158
75°	66	65	66	61	63	71
85°	8	8	8	8	8	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	580.1	580.1	580.1	580.1	580.1
2.5°	585.1	580.7	576.6	581.4	584.3
5°	576.0	574.6	576.2	574.5	588.3
7.5°	564.1	569.3	572.3	570.4	571.2
10°	557.8	556.0	562.7	567.4	566.7
12.5°	551.1	553.8	554.2	559.2	559.6
15°	551.5	545.1	548.5	551.3	551.5
17.5°	530.1	536.9	539.3	545.8	537.7
20°	527.4	522.4	527.4	534.1	533.0
22.5°	511.3	505.7	516.5	522.4	522.0
25°	493.1	495.7	503.8	510.4	509.4
27.5°	477.0	480.2	491.7	500.8	494.9
30°	464.7	463.1	472.8	480.9	485.4
32.5°	442.6	448.3	459.6	467.7	463.4
35°	429.2	430.4	440.4	450.6	450.3
37.5°	405.7	411.6	425.6	428.5	425.9
40°	385.7	391.6	404.3	407.4	406.1
42.5°	371.0	372.0	382.9	386.4	380.8
45°	345.3	351.7	357.6	366.8	358.1
47.5°	323.4	326.4	339.0	341.5	336.9
50°	303.6	304.6	317.3	314.2	311.2
52.5°	278.6	283.0	290.2	289.6	286.0
55°	258.1	256.4	263.1	261.3	261.2
57.5°	233.5	236.5	242.0	239.1	234.6
60°	210.4	210.5	212.5	209.3	208.7
62.5°	184.7	185.6	186.0	182.1	188.5
65°	158.6	156.5	162.6	156.4	157.4
67.5°	134.5	135.6	135.0	131.1	132.6
70°	110.1	111.4	110.5	106.1	107.4
72.5°	87.8	86.1	87.2	81.6	84.2
75°	66.0	64.6	65.8	61.2	63.3
77.5°	44.9	46.0	45.2	42.8	44.2
80°	29.7	28.8	28.8	27.4	27.7
82.5°	17.3	16.5	16.3	15.8	16.5
85°	8.1	7.9	8.0	7.8	7.5
87.5°	2.9	3.0	3.0	2.8	2.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)