

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: P590030

Luminaire Tested: FSR-24-2-LD4-1LO-50-UNV-93-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590030  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

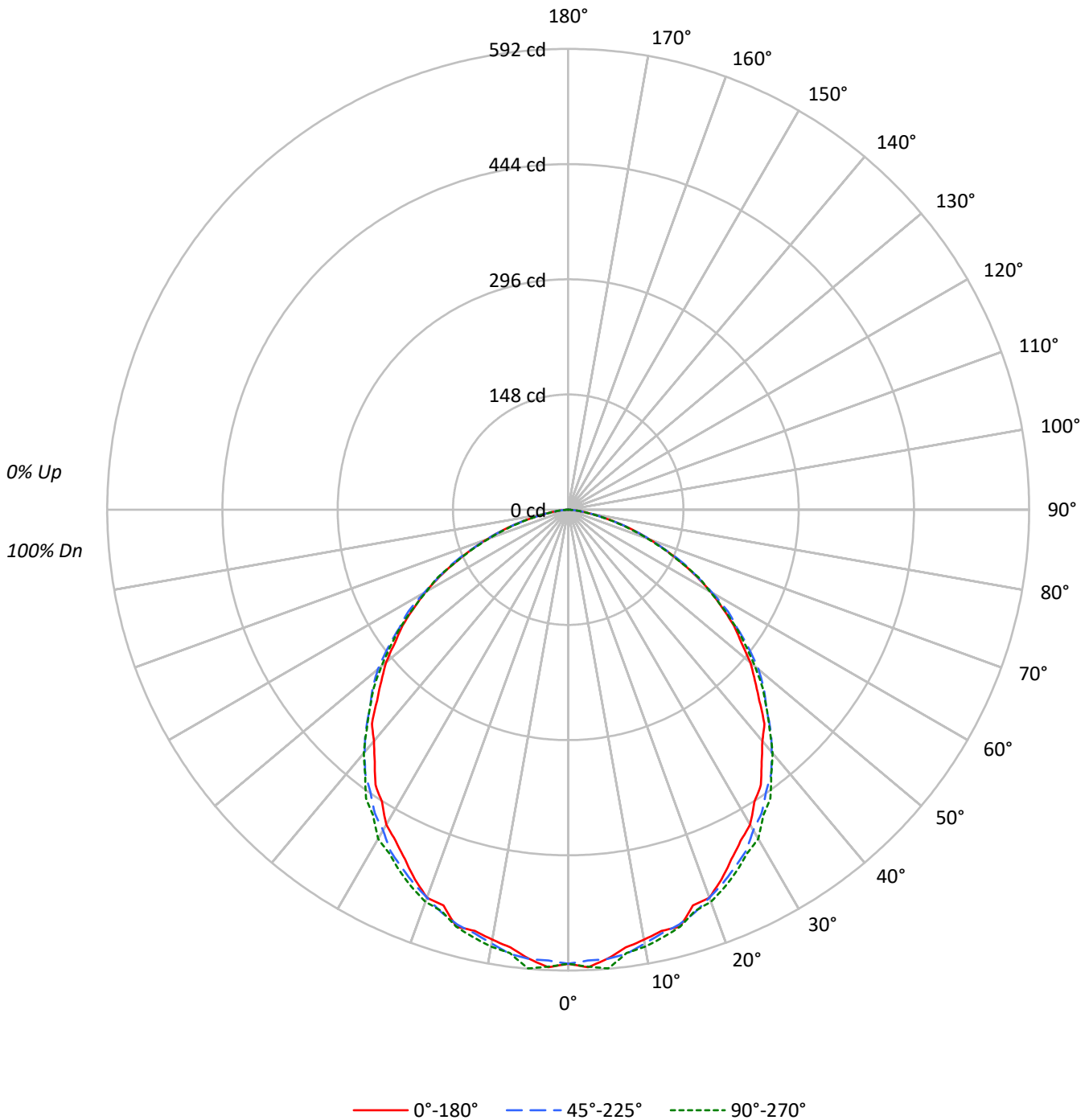
Lumens per Lamp: N/A  
Luminaire Lumens: 1470.0 lumens  
Efficiency: N/A  
Efficacy: 125.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
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°	1570	1570	1570
5°	1564	1565	1598
10°	1533	1546	1557
15°	1545	1536	1545
20°	1519	1519	1535
25°	1472	1504	1521
30°	1452	1477	1517
35°	1418	1455	1487
40°	1362	1428	1434
45°	1321	1368	1370
50°	1278	1335	1310
55°	1217	1241	1232
60°	1138	1150	1129
65°	1015	1041	1008
70°	871	874	850
75°	689	688	661
80°	462	449	432
85°	250	250	232

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1404 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.9	3.7
10°-20°	155.5	10.6
20°-30°	233.0	15.8
30°-40°	276.1	18.8
40°-50°	276.6	18.8
50°-60°	234.8	16.0
60°-70°	158.3	10.8
70°-80°	69.6	4.7
80°-90°	11.3	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°	443.3	30.2
0°-40°	719.4	48.9
0°-60°	1230.8	83.7
0°-90°	1470.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1470.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	579	578	579	578	592	55
15°	554	548	552	554	555	154
25°	496	498	507	513	512	229
35°	432	433	443	453	453	268
45°	347	354	360	369	360	269
55°	260	258	265	263	263	231
65°	159	157	164	157	158	159
75°	66	65	66	62	64	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°	583.3	583.3	583.3	583.3	583.3
2.5°	588.3	583.9	579.7	584.5	587.5
5°	579.1	577.8	579.3	577.6	591.5
7.5°	567.2	572.4	575.4	573.5	574.4
10°	560.9	559.1	565.8	570.5	569.8
12.5°	554.1	556.8	557.2	562.2	562.7
15°	554.5	548.1	551.5	554.3	554.6
17.5°	533.0	539.9	542.2	548.8	540.6
20°	530.3	525.3	530.3	537.0	536.0
22.5°	514.1	508.5	519.3	525.3	524.9
25°	495.8	498.5	506.6	513.2	512.2
27.5°	479.6	482.8	494.4	503.5	497.6
30°	467.2	465.6	475.4	483.6	488.1
32.5°	445.0	450.7	462.2	470.2	465.9
35°	431.5	432.8	442.8	453.1	452.8
37.5°	407.9	413.9	428.0	430.8	428.2
40°	387.8	393.8	406.5	409.6	408.3
42.5°	373.0	374.1	385.0	388.5	382.9
45°	347.2	353.6	359.5	368.8	360.0
47.5°	325.2	328.2	340.8	343.3	338.7
50°	305.2	306.3	319.0	315.9	312.9
52.5°	280.1	284.6	291.7	291.1	287.6
55°	259.5	257.8	264.6	262.7	262.7
57.5°	234.7	237.7	243.3	240.5	235.9
60°	211.5	211.6	213.6	210.4	209.8
62.5°	185.7	186.6	187.1	183.1	189.5
65°	159.4	157.3	163.5	157.2	158.3
67.5°	135.3	136.3	135.7	131.8	133.3
70°	110.7	112.1	111.1	106.6	108.0
72.5°	88.3	86.6	87.7	82.1	84.6
75°	66.3	65.0	66.2	61.5	63.6
77.5°	45.2	46.2	45.5	43.0	44.4
80°	29.8	29.0	29.0	27.6	27.9
82.5°	17.4	16.6	16.3	15.9	16.6
85°	8.1	7.9	8.1	7.8	7.5
87.5°	2.9	3.0	3.0	2.9	2.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)