

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: P560236

Luminaire Tested: FSR-12-2-LD4-2HI-35-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560236  
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-12-2-LD4-2HI-35-UNV-93-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

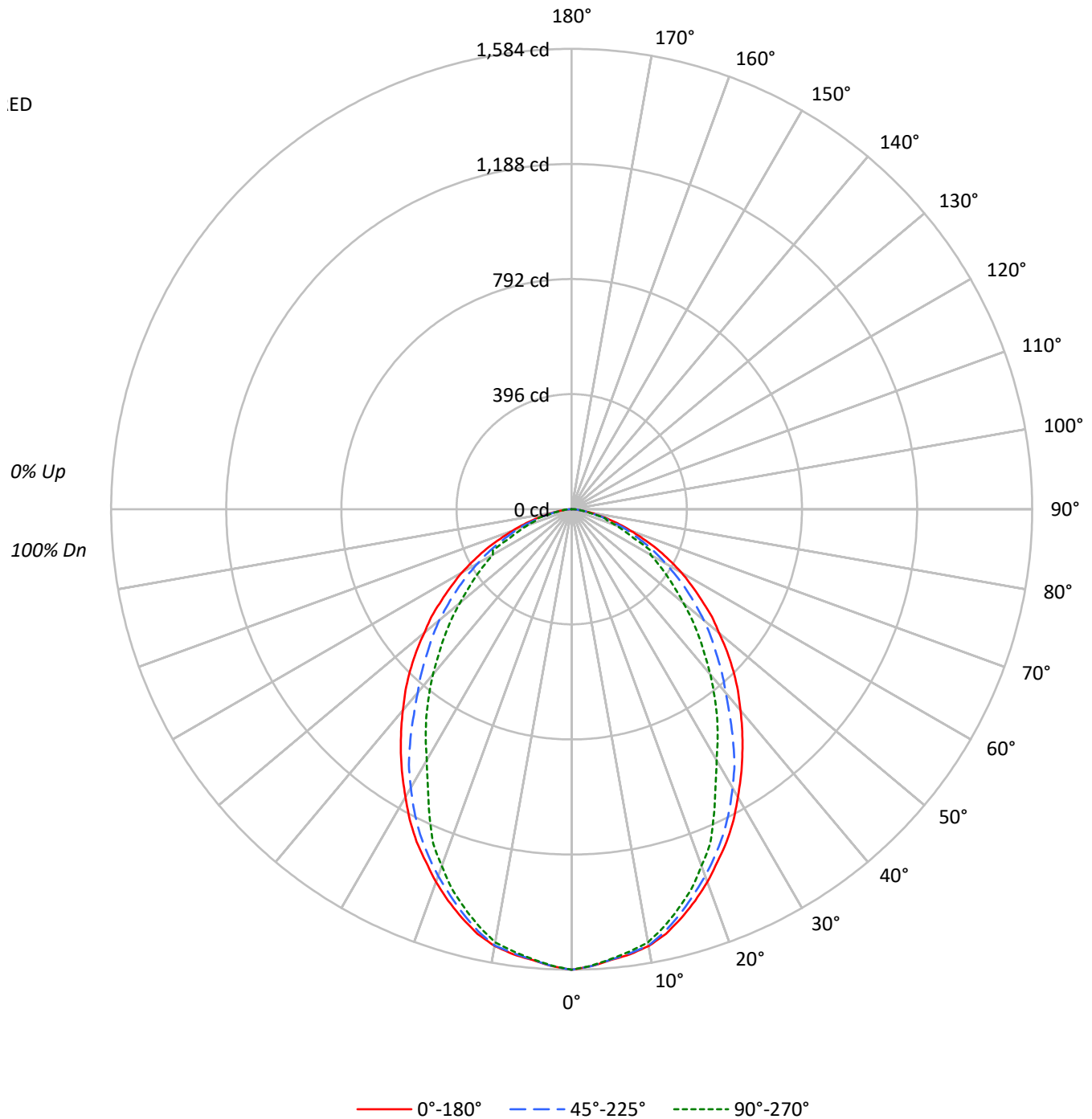
Lumens per Lamp: N/A  
Luminaire Lumens: 3110.0 lumens  
Efficiency: N/A  
Efficacy: 72.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8526	8526	8526
5°	8410	8400	8391
10°	8337	8328	8267
15°	8113	8031	7919
20°	7814	7688	7479
25°	7494	7330	6874
30°	7102	6875	6192
35°	6727	6353	5728
40°	6343	5790	5211
45°	5980	5353	4711
50°	5535	4968	4201
55°	5121	4502	3764
60°	4692	4021	3371
65°	4129	3521	2985
70°	3401	3084	2537
75°	2703	2360	2475
80°	1816	1702	1590
85°	1130	1359	1581

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5980 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.5	4.7
10°-20°	404.7	13.0
20°-30°	560.3	18.0
30°-40°	597.4	19.2
40°-50°	545.0	17.5
50°-60°	427.0	13.7
60°-70°	278.3	8.9
70°-80°	123.3	4.0
80°-90°	26.5	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°	1112.5	35.8
0°-40°	1709.9	55.0
0°-60°	2681.9	86.2
0°-90°	3110.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3110.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1584	1584	1584	1584	1584	
5°	1557	1555	1555	1553	1553	148
15°	1456	1456	1441	1427	1421	409
25°	1262	1254	1234	1190	1158	579
35°	1024	1016	967	894	872	640
45°	786	769	703	645	619	605
55°	546	529	480	423	401	490
65°	324	306	276	282	234	319
75°	130	121	114	108	119	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1584.2	1584.2	1584.2	1584.2	1584.2
2.5°	1573.2	1573.2	1573.2	1571.4	1571.4
5°	1556.7	1554.9	1554.9	1553.1	1553.1
7.5°	1543.9	1542.1	1540.2	1538.4	1534.7
10°	1525.6	1525.6	1523.8	1514.6	1512.8
12.5°	1496.3	1494.5	1487.1	1474.3	1470.6
15°	1456.0	1456.0	1441.3	1426.7	1421.2
17.5°	1412.0	1410.2	1391.9	1377.2	1369.9
20°	1364.4	1360.8	1342.4	1318.6	1305.8
22.5°	1311.3	1311.3	1289.3	1258.2	1245.4
25°	1261.9	1254.5	1234.4	1190.4	1157.5
27.5°	1205.1	1194.1	1172.1	1109.9	1071.4
30°	1142.8	1137.3	1106.2	1025.6	996.3
32.5°	1084.2	1075.1	1042.1	957.8	934.0
35°	1023.8	1016.4	967.0	893.7	871.8
37.5°	963.3	954.2	891.9	833.3	805.8
40°	902.9	891.9	824.1	771.0	741.7
42.5°	846.1	831.5	765.5	708.8	675.8
45°	785.7	769.2	703.3	644.7	619.0
47.5°	725.2	710.6	650.2	589.7	560.4
50°	661.1	648.3	593.4	532.9	501.8
52.5°	608.0	587.9	534.8	474.3	448.7
55°	545.8	529.3	479.8	423.1	401.1
57.5°	489.0	472.5	426.7	373.6	355.3
60°	435.9	412.1	373.6	327.8	313.2
62.5°	377.3	359.0	326.0	287.5	305.8
65°	324.2	305.8	276.5	282.0	234.4
67.5°	265.6	256.4	230.8	205.1	197.8
70°	216.1	205.1	196.0	168.5	161.2
72.5°	172.2	161.2	148.3	133.7	128.2
75°	130.0	120.9	113.5	108.1	119.0
77.5°	89.7	86.1	80.6	75.1	73.3
80°	58.6	56.8	54.9	53.1	51.3
82.5°	34.8	34.8	34.8	34.8	34.8
85°	18.3	20.1	22.0	23.8	25.6
87.5°	11.0	11.0	12.8	14.7	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)