

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: P561257

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561257  
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-LD4-1STD-40-UNV-93-88-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

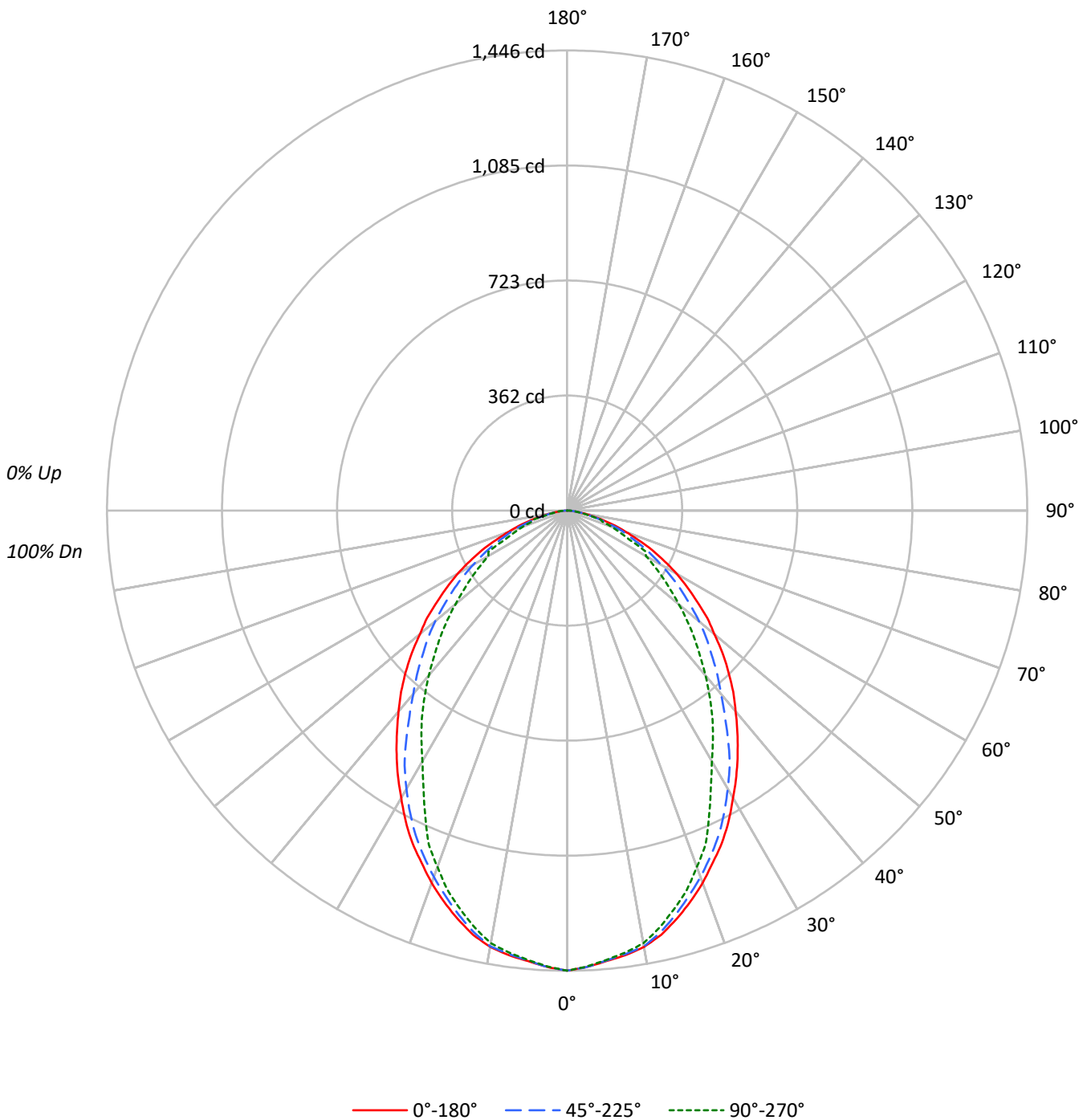
Lumens per Lamp: N/A  
Luminaire Lumens: 2838.0 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

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

	0°	45°	90°
0°	3890	3890	3890
5°	3837	3833	3828
10°	3804	3800	3772
15°	3702	3664	3613
20°	3566	3508	3412
25°	3419	3344	3136
30°	3241	3136	2825
35°	3069	2899	2613
40°	2894	2642	2378
45°	2729	2442	2150
50°	2526	2267	1917
55°	2336	2054	1717
60°	2141	1835	1538
65°	1883	1607	1362
70°	1552	1407	1157
75°	1234	1077	1129
80°	829	776	725
85°	516	621	722

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2729 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.6	4.7
10°-20°	369.3	13.0
20°-30°	511.3	18.0
30°-40°	545.2	19.2
40°-50°	497.4	17.5
50°-60°	389.7	13.7
60°-70°	254.0	8.9
70°-80°	112.5	4.0
80°-90°	24.2	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°	1015.2	35.8
0°-40°	1560.4	55.0
0°-60°	2447.4	86.2
0°-90°	2838.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2838.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1446	1446	1446	1446	1446	
5°	1421	1419	1419	1417	1417	135
15°	1329	1329	1315	1302	1297	374
25°	1152	1145	1126	1086	1056	529
35°	934	928	882	816	796	584
45°	717	702	642	588	565	552
55°	498	483	438	386	366	447
65°	296	279	252	257	214	292
75°	119	110	104	99	109	127
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1445.6	1445.6	1445.6	1445.6	1445.6
2.5°	1435.6	1435.6	1435.6	1433.9	1433.9
5°	1420.6	1418.9	1418.9	1417.2	1417.2
7.5°	1408.9	1407.2	1405.5	1403.9	1400.5
10°	1392.2	1392.2	1390.5	1382.1	1380.5
12.5°	1365.4	1363.7	1357.1	1345.4	1342.0
15°	1328.7	1328.7	1315.3	1301.9	1296.9
17.5°	1288.5	1286.9	1270.2	1256.8	1250.1
20°	1245.1	1241.7	1225.0	1203.3	1191.6
22.5°	1196.6	1196.6	1176.6	1148.2	1136.5
25°	1151.5	1144.8	1126.4	1086.3	1056.2
27.5°	1099.7	1089.7	1069.6	1012.8	977.7
30°	1042.9	1037.9	1009.4	935.9	909.2
32.5°	989.4	981.0	950.9	874.1	852.3
35°	934.2	927.5	882.4	815.6	795.5
37.5°	879.1	870.7	813.9	760.4	735.4
40°	823.9	813.9	752.1	703.6	676.9
42.5°	772.1	758.8	698.6	646.8	616.7
45°	717.0	701.9	641.8	588.3	564.9
47.5°	661.8	648.4	593.3	538.1	511.4
50°	603.3	591.6	541.5	486.3	457.9
52.5°	554.9	536.5	488.0	432.9	409.5
55°	498.0	483.0	437.9	386.1	366.0
57.5°	446.2	431.2	389.4	340.9	324.2
60°	397.8	376.0	340.9	299.2	285.8
62.5°	344.3	327.6	297.5	262.4	279.1
65°	295.8	279.1	252.4	257.4	213.9
67.5°	242.3	234.0	210.6	187.2	180.5
70°	197.2	187.2	178.8	153.8	147.1
72.5°	157.1	147.1	135.4	122.0	117.0
75°	118.7	110.3	103.6	98.6	108.6
77.5°	81.9	78.5	73.5	68.5	66.9
80°	53.5	51.8	50.1	48.5	46.8
82.5°	31.8	31.8	31.8	31.8	31.8
85°	16.7	18.4	20.1	21.7	23.4
87.5°	10.0	10.0	11.7	13.4	15.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)