

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: P561204

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561204  
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-80-86-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

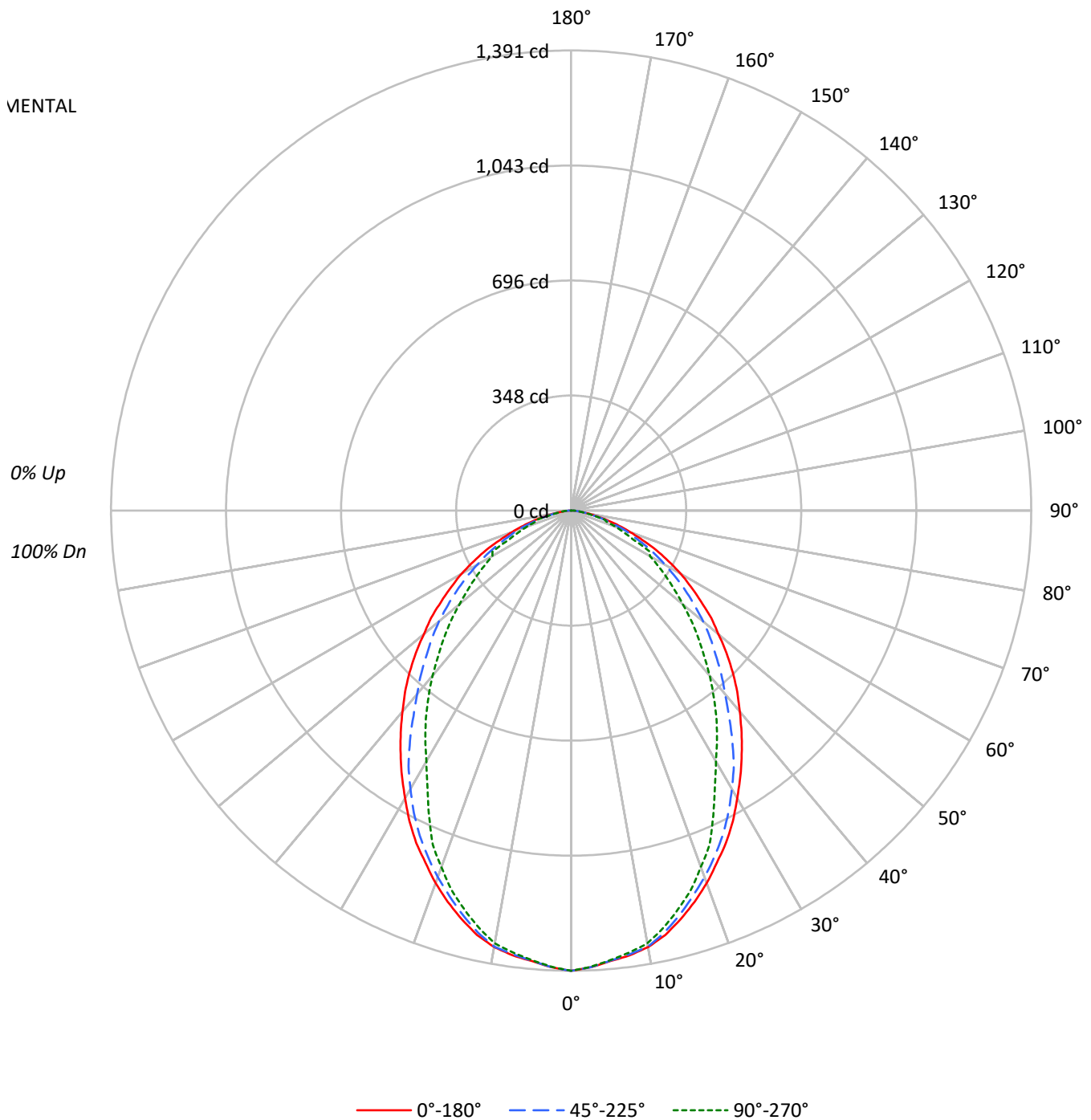
Lumens per Lamp: N/A  
Luminaire Lumens: 2731.0 lumens  
Efficiency: N/A  
Efficacy: 82.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3743	3743	3743
5°	3693	3688	3684
10°	3661	3656	3630
15°	3562	3526	3477
20°	3431	3376	3284
25°	3290	3219	3018
30°	3118	3018	2719
35°	2953	2790	2515
40°	2785	2542	2288
45°	2625	2350	2069
50°	2431	2182	1845
55°	2249	1977	1652
60°	2060	1766	1480
65°	1813	1546	1311
70°	1493	1354	1113
75°	1187	1037	1087
80°	798	747	697
85°	497	596	695

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2625 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.5	4.7
10°-20°	355.4	13.0
20°-30°	492.0	18.0
30°-40°	524.6	19.2
40°-50°	478.6	17.5
50°-60°	375.0	13.7
60°-70°	244.4	8.9
70°-80°	108.3	4.0
80°-90°	23.3	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°	976.9	35.8
0°-40°	1501.5	55.0
0°-60°	2355.1	86.2
0°-90°	2731.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2731.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1391	1391	1391	1391	1391	
5°	1367	1365	1365	1364	1364	130
15°	1279	1279	1266	1253	1248	359
25°	1108	1102	1084	1045	1016	509
35°	899	893	849	785	766	562
45°	690	676	618	566	544	531
55°	479	465	421	372	352	430
65°	285	269	243	248	206	281
75°	114	106	100	95	104	122
85°	16	18	19	21	22	22
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1391.1	1391.1	1391.1	1391.1	1391.1
2.5°	1381.5	1381.5	1381.5	1379.9	1379.9
5°	1367.0	1365.4	1365.4	1363.8	1363.8
7.5°	1355.8	1354.1	1352.5	1350.9	1347.7
10°	1339.7	1339.7	1338.1	1330.0	1328.4
12.5°	1313.9	1312.3	1305.9	1294.6	1291.4
15°	1278.6	1278.6	1265.7	1252.8	1248.0
17.5°	1240.0	1238.4	1222.3	1209.4	1203.0
20°	1198.1	1194.9	1178.8	1157.9	1146.7
22.5°	1151.5	1151.5	1132.2	1104.9	1093.6
25°	1108.1	1101.7	1084.0	1045.4	1016.4
27.5°	1058.2	1048.6	1029.3	974.6	940.8
30°	1003.5	998.7	971.4	900.6	874.9
32.5°	952.1	944.0	915.1	841.1	820.2
35°	899.0	892.6	849.2	784.8	765.5
37.5°	845.9	837.9	783.2	731.8	707.6
40°	792.9	783.2	723.7	677.1	651.3
42.5°	743.0	730.1	672.2	622.4	593.4
45°	689.9	675.5	617.6	566.1	543.6
47.5°	636.9	624.0	570.9	517.9	492.1
50°	580.6	569.3	521.1	468.0	440.7
52.5°	533.9	516.2	469.6	416.5	394.0
55°	479.3	464.8	421.4	371.5	352.2
57.5°	429.4	414.9	374.7	328.1	312.0
60°	382.8	361.9	328.1	287.9	275.0
62.5°	331.3	315.2	286.3	252.5	268.6
65°	284.7	268.6	242.8	247.7	205.9
67.5°	233.2	225.2	202.6	180.1	173.7
70°	189.8	180.1	172.1	148.0	141.5
72.5°	151.2	141.5	130.3	117.4	112.6
75°	114.2	106.1	99.7	94.9	104.5
77.5°	78.8	75.6	70.8	65.9	64.3
80°	51.5	49.9	48.2	46.6	45.0
82.5°	30.6	30.6	30.6	30.6	30.6
85°	16.1	17.7	19.3	20.9	22.5
87.5°	9.6	9.6	11.3	12.9	14.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)