

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: P561209

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561209  
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-80-88-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

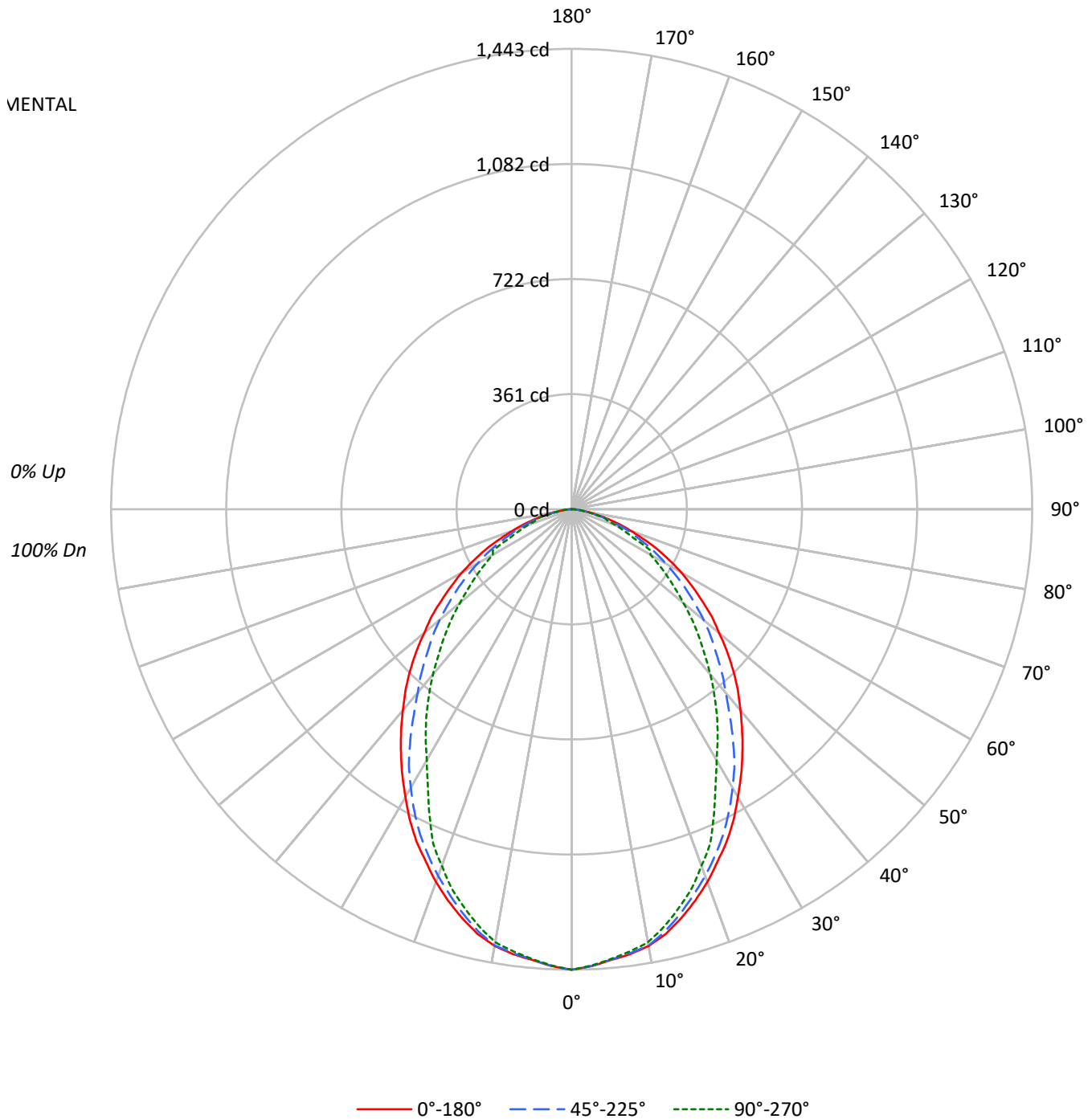
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2833.0 lumens  
Efficiency: N/A  
Efficacy: 85.1 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°	3883	3883	3883
5°	3831	3826	3821
10°	3797	3793	3765
15°	3695	3658	3607
20°	3559	3502	3406
25°	3413	3339	3131
30°	3235	3131	2820
35°	3064	2894	2609
40°	2889	2637	2374
45°	2724	2438	2146
50°	2521	2263	1914
55°	2333	2051	1714
60°	2137	1831	1535
65°	1880	1604	1359
70°	1549	1404	1155
75°	1232	1075	1127
80°	828	775	724
85°	516	618	722

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2724 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.3	4.7
10°-20°	368.7	13.0
20°-30°	510.4	18.0
30°-40°	544.2	19.2
40°-50°	496.5	17.5
50°-60°	389.0	13.7
60°-70°	253.5	8.9
70°-80°	112.3	4.0
80°-90°	24.1	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°	1013.4	35.8
0°-40°	1557.6	55.0
0°-60°	2443.1	86.2
0°-90°	2833.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2833.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1418	1416	1416	1415	1415	135
15°	1326	1326	1313	1300	1295	373
25°	1150	1143	1124	1084	1054	528
35°	933	926	881	814	794	583
45°	716	701	641	587	564	551
55°	497	482	437	385	365	446
65°	295	279	252	257	214	291
75°	118	110	103	98	108	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°	1443.1	1443.1	1443.1	1443.1	1443.1
2.5°	1433.1	1433.1	1433.1	1431.4	1431.4
5°	1418.1	1416.4	1416.4	1414.7	1414.7
7.5°	1406.4	1404.7	1403.1	1401.4	1398.0
10°	1389.7	1389.7	1388.0	1379.7	1378.0
12.5°	1363.0	1361.3	1354.7	1343.0	1339.7
15°	1326.3	1326.3	1313.0	1299.6	1294.6
17.5°	1286.3	1284.6	1267.9	1254.6	1247.9
20°	1242.9	1239.6	1222.9	1201.2	1189.5
22.5°	1194.5	1194.5	1174.5	1146.1	1134.5
25°	1149.5	1142.8	1124.4	1084.4	1054.4
27.5°	1097.8	1087.7	1067.7	1011.0	976.0
30°	1041.0	1036.0	1007.7	934.3	907.6
32.5°	987.6	979.3	949.3	872.5	850.8
35°	932.6	925.9	880.9	814.1	794.1
37.5°	877.5	869.2	812.5	759.1	734.1
40°	822.5	812.5	750.7	702.4	675.7
42.5°	770.8	757.4	697.4	645.6	615.6
45°	715.7	700.7	640.6	587.2	563.9
47.5°	660.7	647.3	592.3	537.2	510.5
50°	602.3	590.6	540.5	485.5	457.1
52.5°	553.9	535.5	487.1	432.1	408.7
55°	497.2	482.1	437.1	385.4	365.4
57.5°	445.4	430.4	388.7	340.3	323.7
60°	397.1	375.4	340.3	298.6	285.3
62.5°	343.7	327.0	297.0	261.9	278.6
65°	295.3	278.6	251.9	256.9	213.5
67.5°	241.9	233.6	210.2	186.9	180.2
70°	196.9	186.9	178.5	153.5	146.8
72.5°	156.8	146.8	135.1	121.8	116.8
75°	118.5	110.1	103.4	98.4	108.4
77.5°	81.7	78.4	73.4	68.4	66.7
80°	53.4	51.7	50.0	48.4	46.7
82.5°	31.7	31.7	31.7	31.7	31.7
85°	16.7	18.4	20.0	21.7	23.4
87.5°	10.0	10.0	11.7	13.3	15.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)