

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: P563388

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563388  
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-24-4-LD4-3LO-50-UNV-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

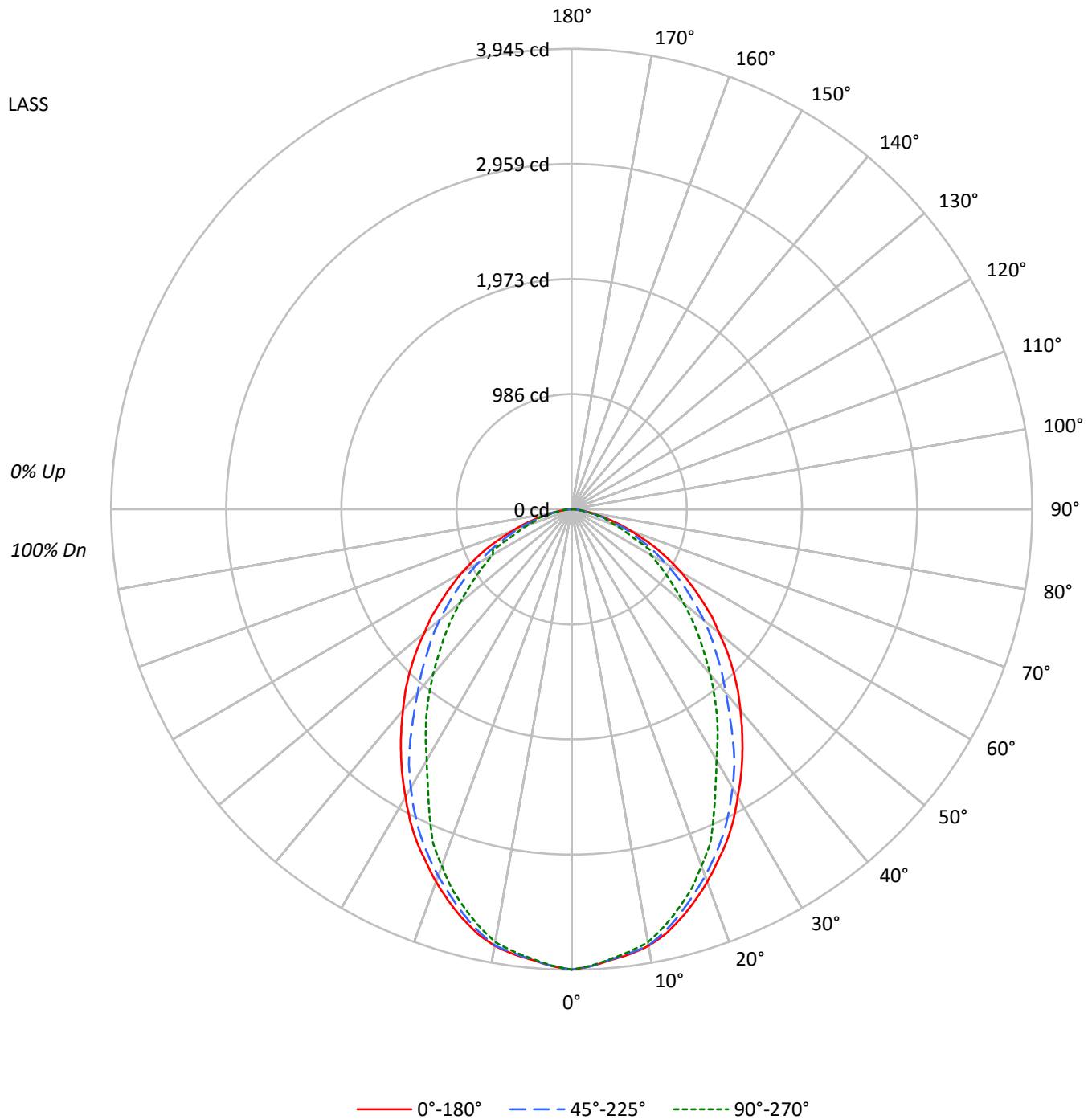
Lumens per Lamp: N/A  
Luminaire Lumens: 7744.0 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5308	5308	5308
5°	5235	5229	5223
10°	5190	5184	5146
15°	5050	4999	4929
20°	4865	4786	4656
25°	4665	4563	4279
30°	4421	4279	3854
35°	4187	3955	3565
40°	3949	3605	3244
45°	3723	3332	2933
50°	3446	3093	2615
55°	3188	2803	2343
60°	2921	2503	2098
65°	2570	2192	1858
70°	2117	1920	1579
75°	1683	1470	1541
80°	1130	1060	989
85°	704	844	985

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3723 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	367.2	4.7
10°-20°	1007.7	13.0
20°-30°	1395.2	18.0
30°-40°	1487.6	19.2
40°-50°	1357.2	17.5
50°-60°	1063.2	13.7
60°-70°	693.0	8.9
70°-80°	307.0	4.0
80°-90°	65.9	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°	2770.1	35.8
0°-40°	4257.7	55.0
0°-60°	6678.1	86.2
0°-90°	7744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7744.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3945	3945	3945	3945	3945	
5°	3876	3872	3872	3867	3867	368
15°	3626	3626	3589	3552	3539	1019
25°	3142	3124	3074	2964	2882	1443
35°	2549	2531	2408	2225	2171	1594
45°	1956	1915	1751	1605	1541	1507
55°	1359	1318	1195	1053	999	1219
65°	807	762	689	702	584	795
75°	324	301	283	269	296	347
85°	46	50	55	59	64	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3944.7	3944.7	3944.7	3944.7	3944.7
2.5°	3917.3	3917.3	3917.3	3912.8	3912.8
5°	3876.3	3871.7	3871.7	3867.2	3867.2
7.5°	3844.4	3839.8	3835.2	3830.7	3821.6
10°	3798.8	3798.8	3794.2	3771.4	3766.8
12.5°	3725.8	3721.2	3703.0	3671.1	3661.9
15°	3625.5	3625.5	3589.0	3552.5	3538.8
17.5°	3516.0	3511.5	3465.9	3429.4	3411.1
20°	3397.4	3388.3	3342.7	3283.4	3251.5
22.5°	3265.2	3265.2	3210.5	3133.0	3101.0
25°	3142.1	3123.8	3073.7	2964.2	2882.1
27.5°	3000.7	2973.3	2918.6	2763.6	2667.8
30°	2845.6	2832.0	2754.4	2553.8	2480.8
32.5°	2699.7	2676.9	2594.8	2385.1	2325.8
35°	2549.2	2531.0	2407.9	2225.4	2170.7
37.5°	2398.7	2375.9	2220.9	2075.0	2006.5
40°	2248.2	2220.9	2052.2	1919.9	1846.9
42.5°	2106.9	2070.4	1906.2	1764.8	1682.8
45°	1956.4	1915.3	1751.2	1605.2	1541.4
47.5°	1805.9	1769.4	1618.9	1468.4	1395.5
50°	1646.3	1614.4	1477.5	1327.1	1249.5
52.5°	1514.0	1463.9	1331.6	1181.1	1117.3
55°	1359.0	1317.9	1194.8	1053.4	998.7
57.5°	1217.6	1176.6	1062.6	930.3	884.7
60°	1085.4	1026.1	930.3	816.3	779.8
62.5°	939.4	893.8	811.7	716.0	761.6
65°	807.2	761.6	688.6	702.3	583.7
67.5°	661.2	638.4	574.6	510.8	492.5
70°	538.1	510.8	488.0	419.6	401.3
72.5°	428.7	401.3	369.4	332.9	319.2
75°	323.8	301.0	282.7	269.1	296.4
77.5°	223.5	214.3	200.7	187.0	182.4
80°	145.9	141.4	136.8	132.2	127.7
82.5°	86.6	86.6	86.6	86.6	86.6
85°	45.6	50.2	54.7	59.3	63.8
87.5°	27.4	27.4	31.9	36.5	41.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)