

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: P563949

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563949  
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-LD4-4LO-40-UNV-93-96-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

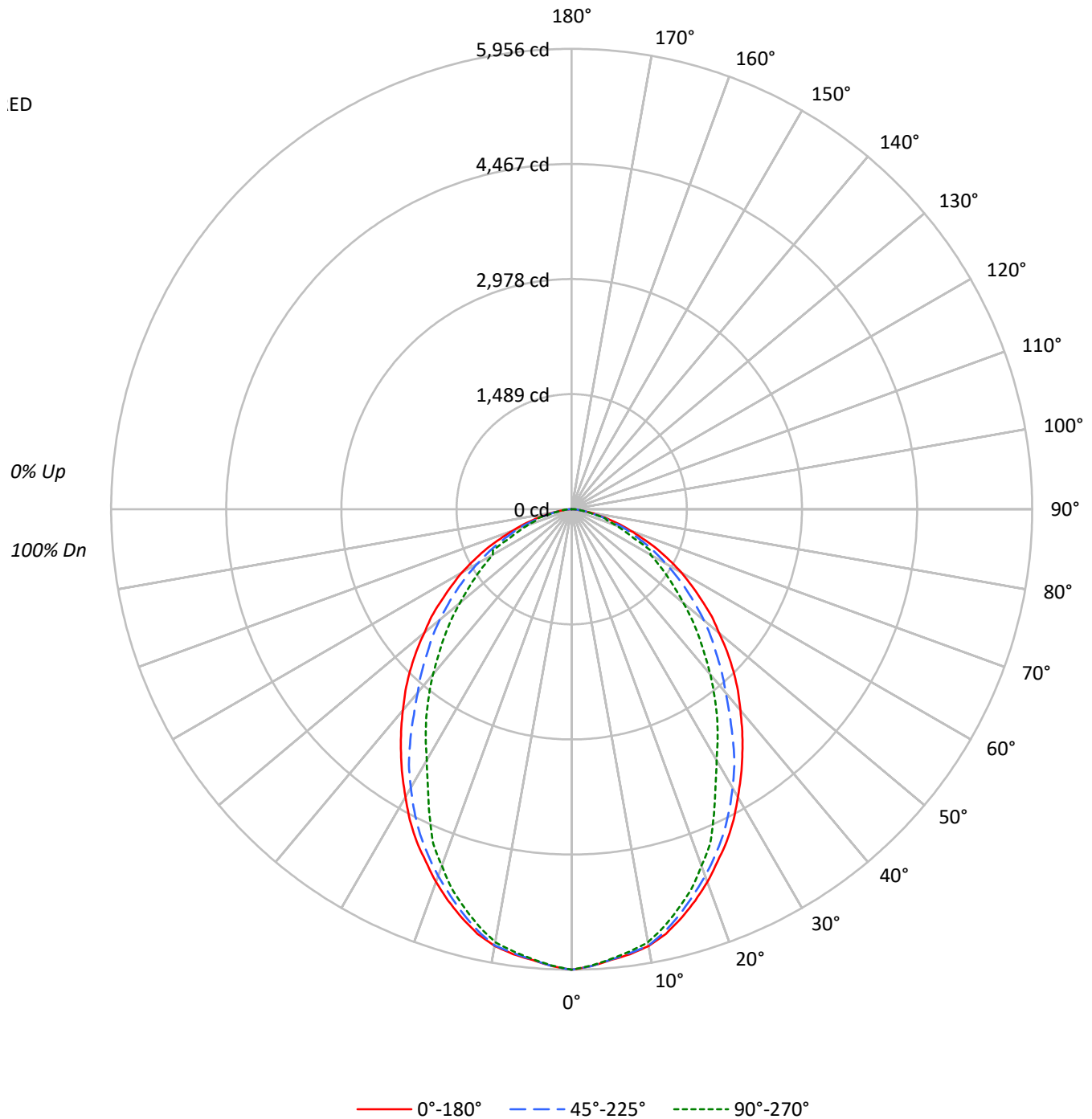
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11693.0 lumens  
Efficiency: N/A  
Efficacy: 124.9 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): 93.6  
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																												
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°	8014	8014	8014
5°	7905	7896	7887
10°	7837	7827	7771
15°	7625	7549	7443
20°	7345	7227	7030
25°	7043	6890	6461
30°	6676	6462	5820
35°	6322	5972	5384
40°	5962	5442	4898
45°	5621	5031	4429
50°	5203	4670	3949
55°	4814	4232	3537
60°	4410	3780	3169
65°	3880	3310	2806
70°	3196	2899	2384
75°	2542	2219	2327
80°	1707	1601	1494
85°	1064	1275	1488

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5621 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	554.4	4.7
10°-20°	1521.6	13.0
20°-30°	2106.6	18.0
30°-40°	2246.2	19.2
40°-50°	2049.2	17.5
50°-60°	1605.4	13.7
60°-70°	1046.3	8.9
70°-80°	463.6	4.0
80°-90°	99.5	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°	4182.7	35.8
0°-40°	6428.9	55.0
0°-60°	10083.6	86.2
0°-90°	11693.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11693.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5956	5956	5956	5956	5956	
5°	5853	5846	5846	5839	5839	556
15°	5474	5474	5419	5364	5343	1539
25°	4744	4717	4641	4476	4352	2178
35°	3849	3822	3636	3360	3278	2406
45°	2954	2892	2644	2424	2327	2275
55°	2052	1990	1804	1591	1508	1840
65°	1219	1150	1040	1060	881	1201
75°	489	454	427	406	448	524
85°	69	76	83	90	96	96
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5956.3	5956.3	5956.3	5956.3	5956.3
2.5°	5914.9	5914.9	5914.9	5908.1	5908.1
5°	5853.0	5846.1	5846.1	5839.2	5839.2
7.5°	5804.8	5797.9	5791.0	5784.1	5770.3
10°	5735.9	5735.9	5729.0	5694.6	5687.7
12.5°	5625.7	5618.9	5591.3	5543.1	5529.3
15°	5474.2	5474.2	5419.2	5364.1	5343.4
17.5°	5309.0	5302.1	5233.2	5178.2	5150.6
20°	5130.0	5116.2	5047.3	4957.8	4909.6
22.5°	4930.3	4930.3	4847.6	4730.6	4682.4
25°	4744.3	4716.8	4641.1	4475.8	4351.9
27.5°	4530.9	4489.6	4406.9	4172.8	4028.2
30°	4296.8	4276.1	4159.1	3856.1	3745.9
32.5°	4076.4	4042.0	3918.0	3601.3	3511.8
35°	3849.2	3821.6	3635.7	3360.3	3277.7
37.5°	3622.0	3587.5	3353.4	3133.1	3029.8
40°	3394.7	3353.4	3098.6	2898.9	2788.8
42.5°	3181.3	3126.2	2878.3	2664.8	2540.9
45°	2954.0	2892.1	2644.2	2423.8	2327.4
47.5°	2726.8	2671.7	2444.5	2217.2	2107.1
50°	2485.8	2437.6	2231.0	2003.8	1886.7
52.5°	2286.1	2210.4	2010.7	1783.4	1687.0
55°	2052.0	1990.0	1804.1	1590.6	1508.0
57.5°	1838.5	1776.5	1604.4	1404.7	1335.9
60°	1638.8	1549.3	1404.7	1232.6	1177.5
62.5°	1418.5	1349.6	1225.7	1081.1	1149.9
65°	1218.8	1149.9	1039.8	1060.4	881.4
67.5°	998.4	964.0	867.6	771.2	743.7
70°	812.5	771.2	736.8	633.5	606.0
72.5°	647.3	606.0	557.8	502.7	482.0
75°	488.9	454.5	426.9	406.3	447.6
77.5°	337.4	323.6	303.0	282.3	275.4
80°	220.3	213.5	206.6	199.7	192.8
82.5°	130.8	130.8	130.8	130.8	130.8
85°	68.9	75.7	82.6	89.5	96.4
87.5°	41.3	41.3	48.2	55.1	62.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)