

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: P563634

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563634  
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-LD4-4HI-35-UNV-80-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

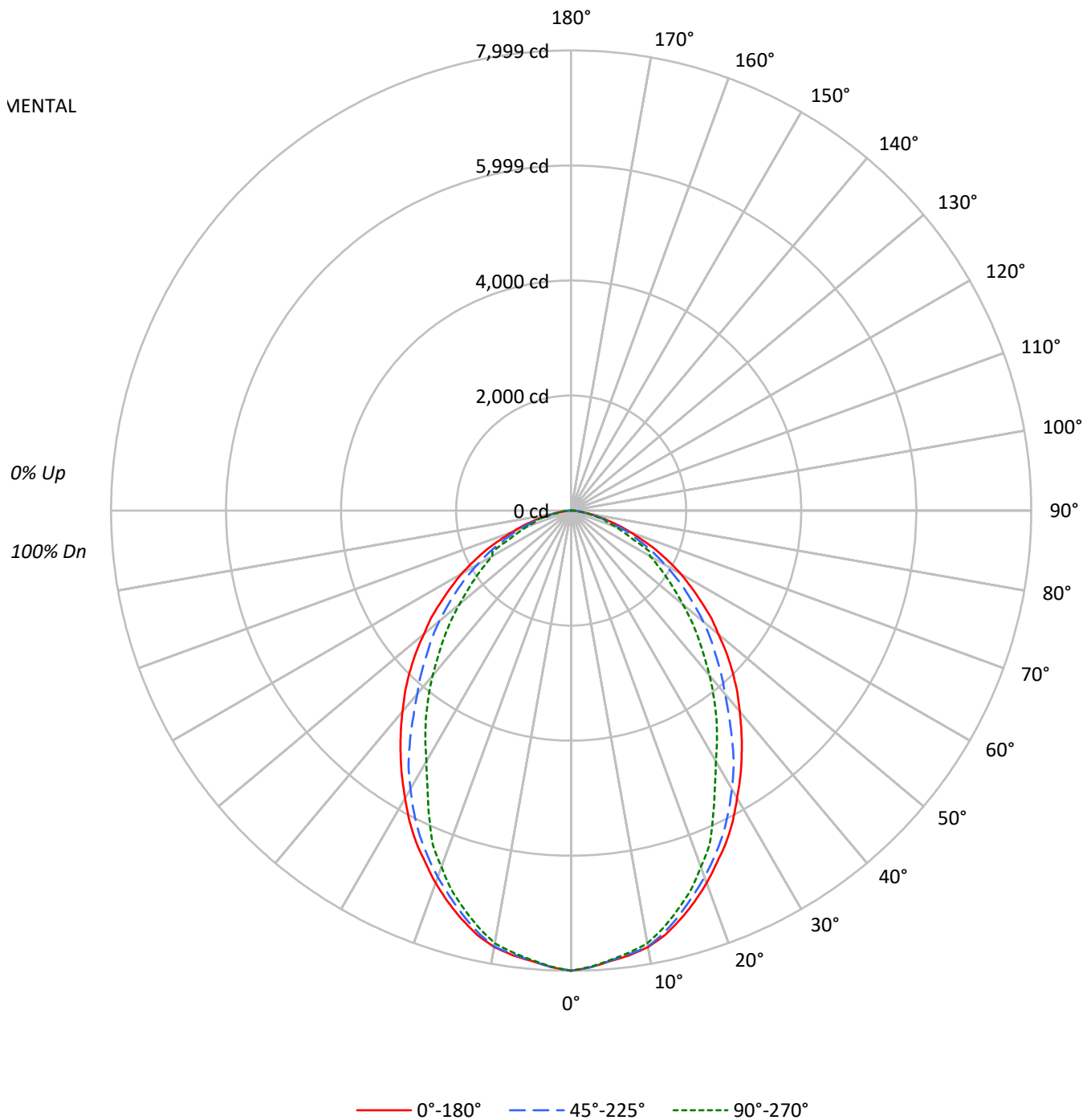
Lumens per Lamp: N/A  
Luminaire Lumens: 15703.0 lumens  
Efficiency: N/A  
Efficacy: 90.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	10762	10762	10762
5°	10616	10604	10591
10°	10524	10511	10436
15°	10240	10137	9996
20°	9864	9705	9441
25°	9459	9253	8676
30°	8965	8678	7816
35°	8491	8020	7230
40°	8007	7309	6578
45°	7549	6757	5947
50°	6988	6271	5304
55°	6464	5683	4751
60°	5923	5076	4255
65°	5211	4445	3769
70°	4293	3893	3201
75°	3413	2980	3125
80°	2293	2149	2006
85°	1428	1714	1999

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7549 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	744.6	4.7
10°-20°	2043.5	13.0
20°-30°	2829.0	18.0
30°-40°	3016.6	19.2
40°-50°	2752.0	17.5
50°-60°	2156.0	13.7
60°-70°	1405.2	8.9
70°-80°	622.5	4.0
80°-90°	133.7	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°	5617.1	35.8
0°-40°	8633.7	55.0
0°-60°	13541.6	86.2
0°-90°	15703.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15703.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7999	7999	7999	7999	7999	
5°	7860	7851	7851	7842	7842	746
15°	7352	7352	7278	7204	7176	2067
25°	6371	6334	6233	6011	5844	2925
35°	5169	5132	4883	4513	4402	3232
45°	3967	3884	3551	3255	3126	3056
55°	2756	2672	2423	2136	2025	2472
65°	1637	1544	1396	1424	1184	1613
75°	657	610	573	546	601	704
85°	92	102	111	120	130	128
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7998.9	7998.9	7998.9	7998.9	7998.9
2.5°	7943.4	7943.4	7943.4	7934.2	7934.2
5°	7860.2	7850.9	7850.9	7841.7	7841.7
7.5°	7795.5	7786.2	7777.0	7767.7	7749.2
10°	7703.0	7703.0	7693.7	7647.5	7638.3
12.5°	7555.0	7545.8	7508.8	7444.1	7425.6
15°	7351.6	7351.6	7277.6	7203.6	7175.9
17.5°	7129.7	7120.4	7027.9	6954.0	6917.0
20°	6889.2	6870.7	6778.3	6658.0	6593.3
22.5°	6621.1	6621.1	6510.1	6352.9	6288.2
25°	6371.4	6334.4	6232.7	6010.7	5844.3
27.5°	6084.7	6029.2	5918.3	5603.9	5409.7
30°	5770.3	5742.6	5585.4	5178.5	5030.5
32.5°	5474.4	5428.2	5261.7	4836.3	4716.1
35°	5169.2	5132.2	4882.6	4512.7	4401.7
37.5°	4864.1	4817.8	4503.4	4207.5	4068.8
40°	4558.9	4503.4	4161.3	3893.1	3745.1
42.5°	4272.2	4198.3	3865.4	3578.7	3412.2
45°	3967.1	3883.9	3551.0	3255.0	3125.6
47.5°	3661.9	3587.9	3282.8	2977.6	2829.7
50°	3338.3	3273.5	2996.1	2691.0	2533.8
52.5°	3070.1	2968.4	2700.2	2395.0	2265.6
55°	2755.7	2672.5	2422.8	2136.1	2025.2
57.5°	2469.0	2385.8	2154.6	1886.4	1794.0
60°	2200.9	2080.6	1886.4	1655.3	1581.3
62.5°	1904.9	1812.5	1646.0	1451.8	1544.3
65°	1636.8	1544.3	1396.3	1424.1	1183.7
67.5°	1340.9	1294.6	1165.2	1035.7	998.7
70°	1091.2	1035.7	989.5	850.7	813.8
72.5°	869.2	813.8	749.0	675.1	647.3
75°	656.6	610.3	573.3	545.6	601.1
77.5°	453.1	434.6	406.9	379.1	369.9
80°	295.9	286.7	277.4	268.2	258.9
82.5°	175.7	175.7	175.7	175.7	175.7
85°	92.5	101.7	111.0	120.2	129.5
87.5°	55.5	55.5	64.7	74.0	83.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)