

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: P561779

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561779  
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-LD4-2STD-40-UNV-80-85-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

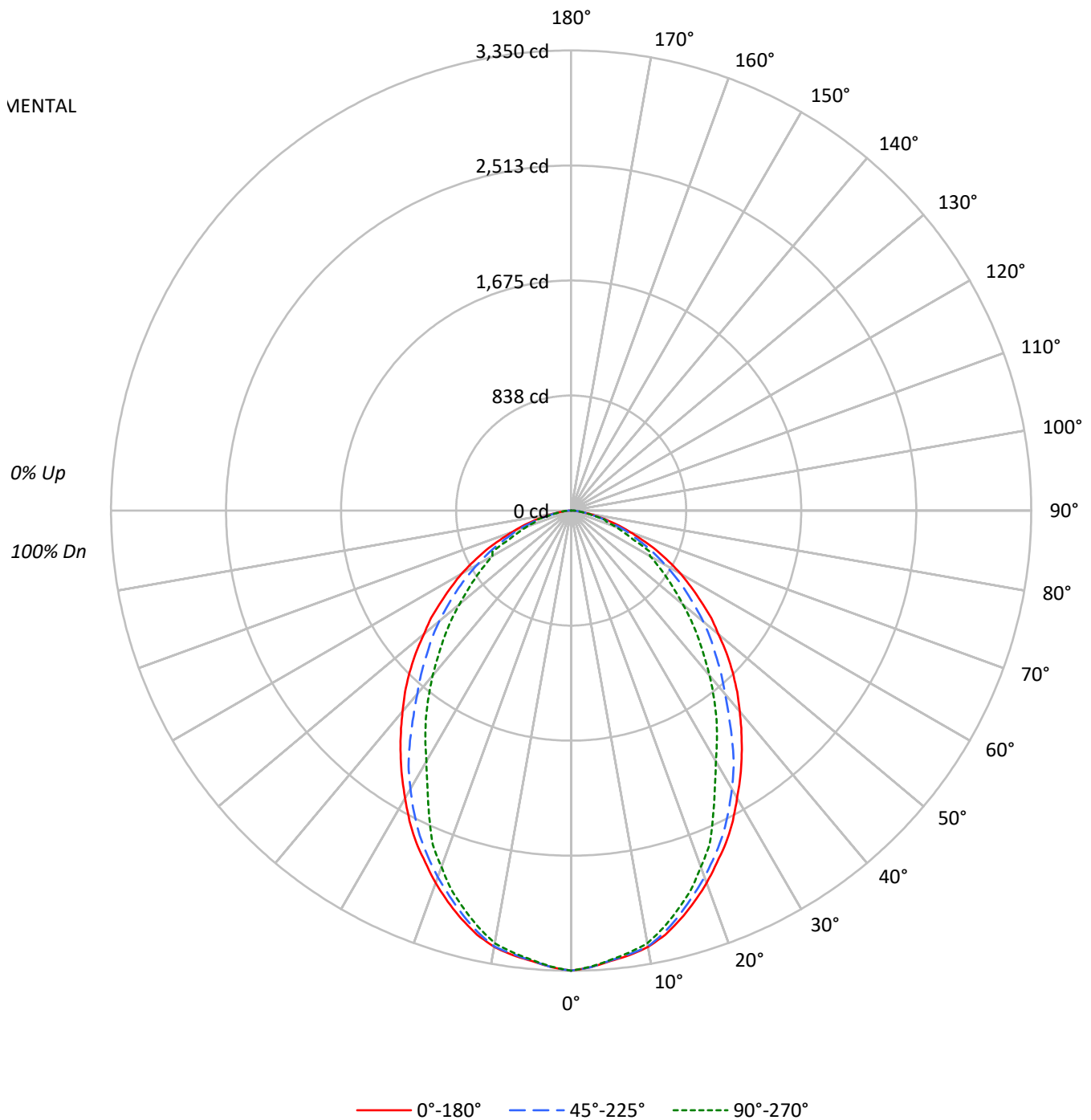
Lumens per Lamp: N/A  
Luminaire Lumens: 6576.0 lumens  
Efficiency: N/A  
Efficacy: 98.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9014	9014	9014
5°	8891	8881	8871
10°	8814	8804	8740
15°	8577	8491	8372
20°	8262	8129	7907
25°	7922	7750	7267
30°	7509	7268	6546
35°	7111	6717	6055
40°	6707	6121	5510
45°	6322	5659	4981
50°	5853	5253	4442
55°	5414	4760	3979
60°	4961	4252	3564
65°	4364	3723	3156
70°	3596	3260	2681
75°	2858	2496	2617
80°	1920	1801	1680
85°	1195	1436	1673

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6322 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	311.8	4.7
10°-20°	855.7	13.0
20°-30°	1184.7	18.0
30°-40°	1263.3	19.2
40°-50°	1152.5	17.5
50°-60°	902.9	13.7
60°-70°	588.4	8.9
70°-80°	260.7	4.0
80°-90°	56.0	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°	2352.3	35.8
0°-40°	3615.5	55.0
0°-60°	5670.9	86.2
0°-90°	6576.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6576.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3350	3350	3350	3350	3350	
5°	3292	3288	3288	3284	3284	312
15°	3079	3079	3048	3017	3005	865
25°	2668	2653	2610	2517	2447	1225
35°	2165	2149	2045	1890	1843	1353
45°	1661	1626	1487	1363	1309	1280
55°	1154	1119	1015	895	848	1035
65°	685	647	585	596	496	675
75°	275	256	240	228	252	295
85°	39	43	46	50	54	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3349.7	3349.7	3349.7	3349.7	3349.7
2.5°	3326.5	3326.5	3326.5	3322.6	3322.6
5°	3291.6	3287.8	3287.8	3283.9	3283.9
7.5°	3264.5	3260.7	3256.8	3252.9	3245.2
10°	3225.8	3225.8	3221.9	3202.6	3198.7
12.5°	3163.8	3160.0	3144.5	3117.4	3109.6
15°	3078.7	3078.7	3047.7	3016.7	3005.1
17.5°	2985.7	2981.8	2943.1	2912.1	2896.6
20°	2885.0	2877.3	2838.6	2788.2	2761.1
22.5°	2772.7	2772.7	2726.3	2660.4	2633.3
25°	2668.2	2652.7	2610.1	2517.1	2447.4
27.5°	2548.1	2524.9	2478.4	2346.7	2265.4
30°	2416.5	2404.8	2339.0	2168.6	2106.6
32.5°	2292.5	2273.2	2203.5	2025.3	1975.0
35°	2164.7	2149.2	2044.7	1889.8	1843.3
37.5°	2036.9	2017.6	1885.9	1762.0	1703.9
40°	1909.2	1885.9	1742.6	1630.3	1568.4
42.5°	1789.1	1758.1	1618.7	1498.7	1429.0
45°	1661.3	1626.5	1487.0	1363.1	1308.9
47.5°	1533.5	1502.5	1374.7	1247.0	1185.0
50°	1398.0	1370.9	1254.7	1126.9	1061.1
52.5°	1285.7	1243.1	1130.8	1003.0	948.8
55°	1154.0	1119.2	1014.6	894.6	848.1
57.5°	1034.0	999.1	902.3	790.0	751.3
60°	921.7	871.3	790.0	693.2	662.2
62.5°	797.7	759.0	689.3	608.0	646.7
65°	685.4	646.7	584.7	596.4	495.7
67.5°	561.5	542.2	487.9	433.7	418.2
70°	457.0	433.7	414.4	356.3	340.8
72.5°	364.0	340.8	313.7	282.7	271.1
75°	274.9	255.6	240.1	228.5	251.7
77.5°	189.8	182.0	170.4	158.8	154.9
80°	123.9	120.0	116.2	112.3	108.4
82.5°	73.6	73.6	73.6	73.6	73.6
85°	38.7	42.6	46.5	50.3	54.2
87.5°	23.2	23.2	27.1	31.0	34.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)