

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: P563059

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563059  
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-LD4-3HI-35-UNV-80-85-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

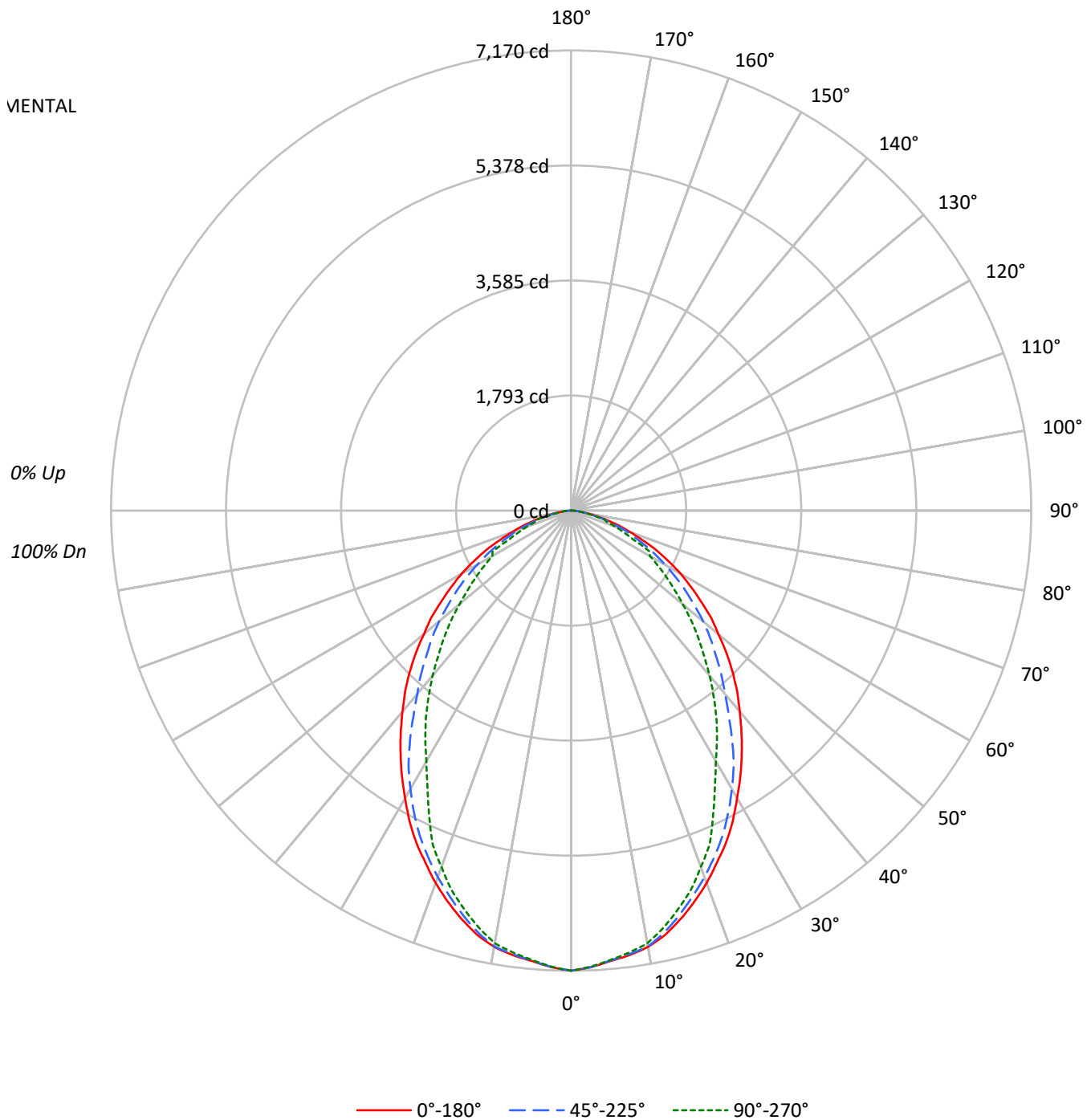
Lumens per Lamp: N/A  
Luminaire Lumens: 14075.0 lumens  
Efficiency: N/A  
Efficacy: 108.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9647	9647	9647
5°	9516	9504	9493
10°	9433	9422	9354
15°	9179	9086	8959
20°	8842	8699	8462
25°	8478	8294	7777
30°	8036	7778	7005
35°	7610	7188	6480
40°	7177	6551	5896
45°	6766	6056	5331
50°	6263	5621	4754
55°	5794	5094	4258
60°	5308	4550	3814
65°	4671	3985	3378
70°	3848	3489	2869
75°	3059	2672	2801
80°	2055	1927	1798
85°	1280	1536	1791

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6766 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	667.4	4.7
10°-20°	1831.6	13.0
20°-30°	2535.7	18.0
30°-40°	2703.8	19.2
40°-50°	2466.7	17.5
50°-60°	1932.5	13.7
60°-70°	1259.5	8.9
70°-80°	558.0	4.0
80°-90°	119.8	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°	5034.7	35.8
0°-40°	7738.6	55.0
0°-60°	12137.7	86.2
0°-90°	14075.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14075.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7170	7170	7170	7170	7170	
5°	7045	7037	7037	7029	7029	669
15°	6589	6589	6523	6457	6432	1852
25°	5711	5678	5586	5388	5238	2622
35°	4633	4600	4376	4045	3945	2897
45°	3556	3481	3183	2918	2802	2739
55°	2470	2395	2172	1915	1815	2215
65°	1467	1384	1252	1276	1061	1446
75°	588	547	514	489	539	631
85°	83	91	100	108	116	115
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7169.6	7169.6	7169.6	7169.6	7169.6
2.5°	7119.9	7119.9	7119.9	7111.6	7111.6
5°	7045.3	7037.0	7037.0	7028.7	7028.7
7.5°	6987.3	6979.0	6970.7	6962.4	6945.8
10°	6904.4	6904.4	6896.1	6854.7	6846.4
12.5°	6771.8	6763.5	6730.3	6672.3	6655.7
15°	6589.4	6589.4	6523.1	6456.8	6431.9
17.5°	6390.5	6382.2	6299.3	6233.0	6199.9
20°	6175.0	6158.4	6075.5	5967.8	5909.8
22.5°	5934.6	5934.6	5835.2	5694.3	5636.2
25°	5710.8	5677.7	5586.5	5387.6	5238.4
27.5°	5453.9	5404.2	5304.7	5022.9	4848.8
30°	5172.1	5147.2	5006.3	4641.6	4509.0
32.5°	4906.8	4865.4	4716.2	4334.9	4227.2
35°	4633.3	4600.2	4376.4	4044.8	3945.4
37.5°	4359.8	4318.3	4036.5	3771.3	3647.0
40°	4086.3	4036.5	3729.9	3489.5	3356.9
42.5°	3829.3	3763.0	3464.6	3207.7	3058.5
45°	3555.8	3481.2	3182.8	2917.6	2801.5
47.5°	3282.3	3216.0	2942.4	2668.9	2536.3
50°	2992.2	2934.2	2685.5	2412.0	2271.1
52.5°	2751.8	2660.6	2420.3	2146.7	2030.7
55°	2470.0	2395.4	2171.6	1914.7	1815.2
57.5°	2213.0	2138.5	1931.2	1690.9	1608.0
60°	1972.7	1864.9	1690.9	1483.7	1417.3
62.5°	1707.4	1624.6	1475.4	1301.3	1384.2
65°	1467.1	1384.2	1251.6	1276.4	1060.9
67.5°	1201.8	1160.4	1044.4	928.3	895.2
70°	978.1	928.3	886.9	762.5	729.4
72.5°	779.1	729.4	671.4	605.1	580.2
75°	588.5	547.0	513.9	489.0	538.8
77.5°	406.1	389.6	364.7	339.8	331.5
80°	265.2	256.9	248.7	240.4	232.1
82.5°	157.5	157.5	157.5	157.5	157.5
85°	82.9	91.2	99.5	107.8	116.0
87.5°	49.7	49.7	58.0	66.3	74.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)