

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: P563295

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-82-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563295  
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-35-UNV-82-97-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

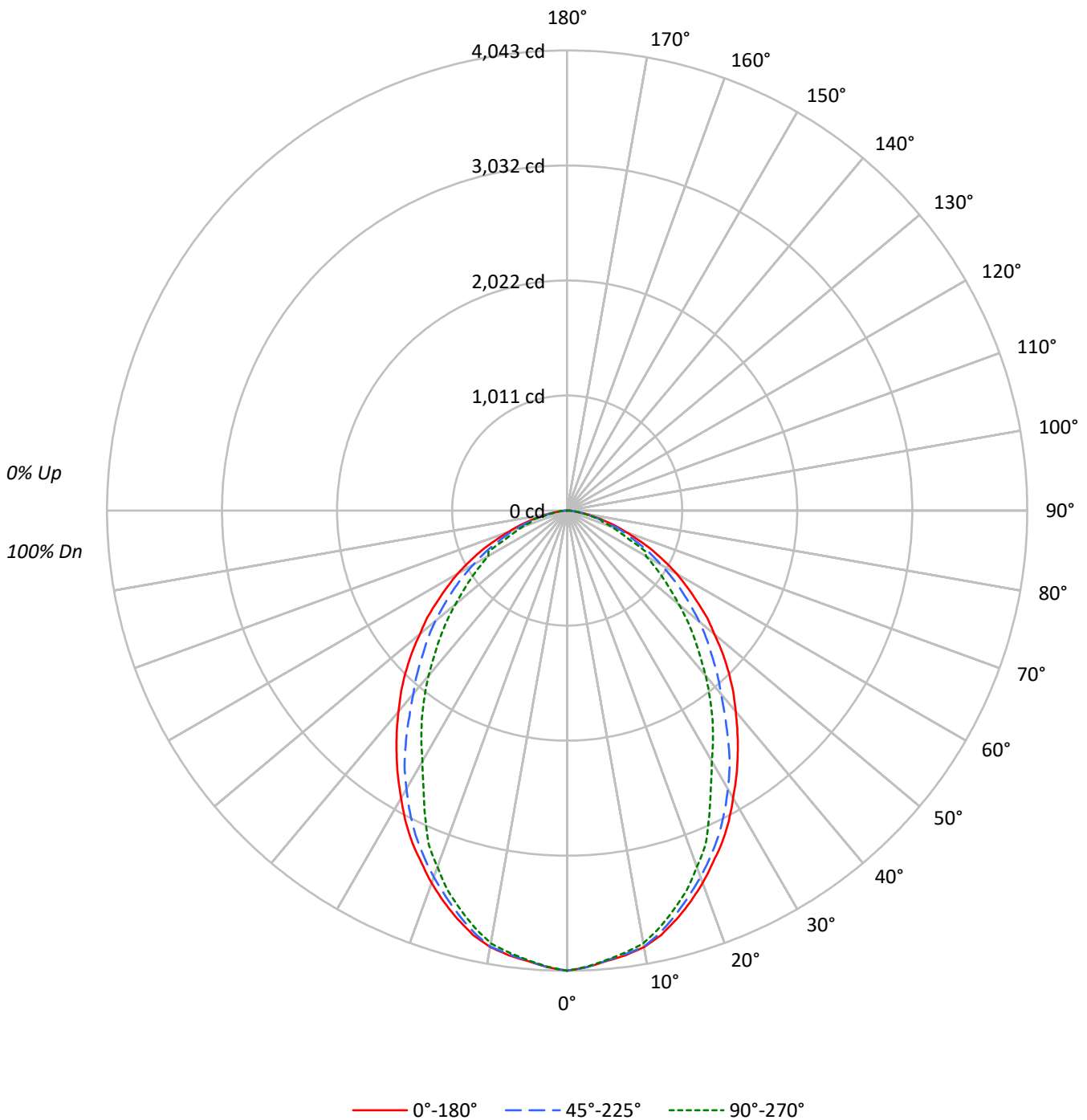
Lumens per Lamp: N/A  
Luminaire Lumens: 7937.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5440	5440	5440
5°	5366	5360	5353
10°	5319	5313	5275
15°	5176	5124	5052
20°	4986	4905	4772
25°	4781	4677	4385
30°	4531	4386	3950
35°	4292	4054	3654
40°	4047	3694	3325
45°	3815	3415	3006
50°	3532	3170	2681
55°	3267	2873	2401
60°	2993	2566	2151
65°	2634	2247	1905
70°	2170	1967	1618
75°	1725	1507	1579
80°	1159	1086	1014
85°	721	866	1010

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3815 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	376.3	4.7
10°-20°	1032.9	13.0
20°-30°	1429.9	18.0
30°-40°	1524.7	19.2
40°-50°	1391.0	17.5
50°-60°	1089.7	13.7
60°-70°	710.2	8.9
70°-80°	314.7	4.0
80°-90°	67.6	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°	2839.1	35.8
0°-40°	4363.8	55.0
0°-60°	6844.5	86.2
0°-90°	7937.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7937.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4043	4043	4043	4043	4043	
5°	3973	3968	3968	3964	3964	377
15°	3716	3716	3678	3641	3627	1045
25°	3220	3202	3150	3038	2954	1478
35°	2613	2594	2468	2281	2225	1633
45°	2005	1963	1795	1645	1580	1545
55°	1393	1351	1225	1080	1024	1249
65°	827	781	706	720	598	815
75°	332	308	290	276	304	356
85°	47	51	56	61	65	65
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4043.0	4043.0	4043.0	4043.0	4043.0
2.5°	4015.0	4015.0	4015.0	4010.3	4010.3
5°	3972.9	3968.2	3968.2	3963.5	3963.5
7.5°	3940.2	3935.5	3930.8	3926.2	3916.8
10°	3893.4	3893.4	3888.8	3865.4	3860.7
12.5°	3818.7	3814.0	3795.3	3762.6	3753.2
15°	3715.8	3715.8	3678.4	3641.0	3627.0
17.5°	3603.6	3599.0	3552.2	3514.8	3496.1
20°	3482.1	3472.8	3426.0	3365.3	3332.6
22.5°	3346.6	3346.6	3290.5	3211.0	3178.3
25°	3220.4	3201.7	3150.3	3038.1	2954.0
27.5°	3075.5	3047.4	2991.4	2832.4	2734.3
30°	2916.6	2902.5	2823.1	2617.4	2542.7
32.5°	2767.0	2743.6	2659.5	2444.5	2383.7
35°	2612.8	2594.1	2467.9	2280.9	2224.8
37.5°	2458.5	2435.1	2276.2	2126.7	2056.6
40°	2304.3	2276.2	2103.3	1967.7	1893.0
42.5°	2159.4	2122.0	1953.7	1808.8	1724.7
45°	2005.1	1963.1	1794.8	1645.2	1579.8
47.5°	1850.9	1813.5	1659.3	1505.0	1430.2
50°	1687.3	1654.6	1514.4	1360.1	1280.7
52.5°	1551.8	1500.4	1364.8	1210.6	1145.1
55°	1392.8	1350.8	1224.6	1079.7	1023.6
57.5°	1248.0	1205.9	1089.0	953.5	906.8
60°	1112.4	1051.6	953.5	836.6	799.3
62.5°	962.8	916.1	832.0	733.8	780.6
65°	827.3	780.6	705.8	719.8	598.3
67.5°	677.7	654.4	588.9	523.5	504.8
70°	551.5	523.5	500.1	430.0	411.3
72.5°	439.4	411.3	378.6	341.2	327.2
75°	331.9	308.5	289.8	275.8	303.8
77.5°	229.0	219.7	205.7	191.6	187.0
80°	149.6	144.9	140.2	135.5	130.9
82.5°	88.8	88.8	88.8	88.8	88.8
85°	46.7	51.4	56.1	60.8	65.4
87.5°	28.0	28.0	32.7	37.4	42.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)