

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: P562671

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562671  
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-LD4-2HI-50-UNV-93-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

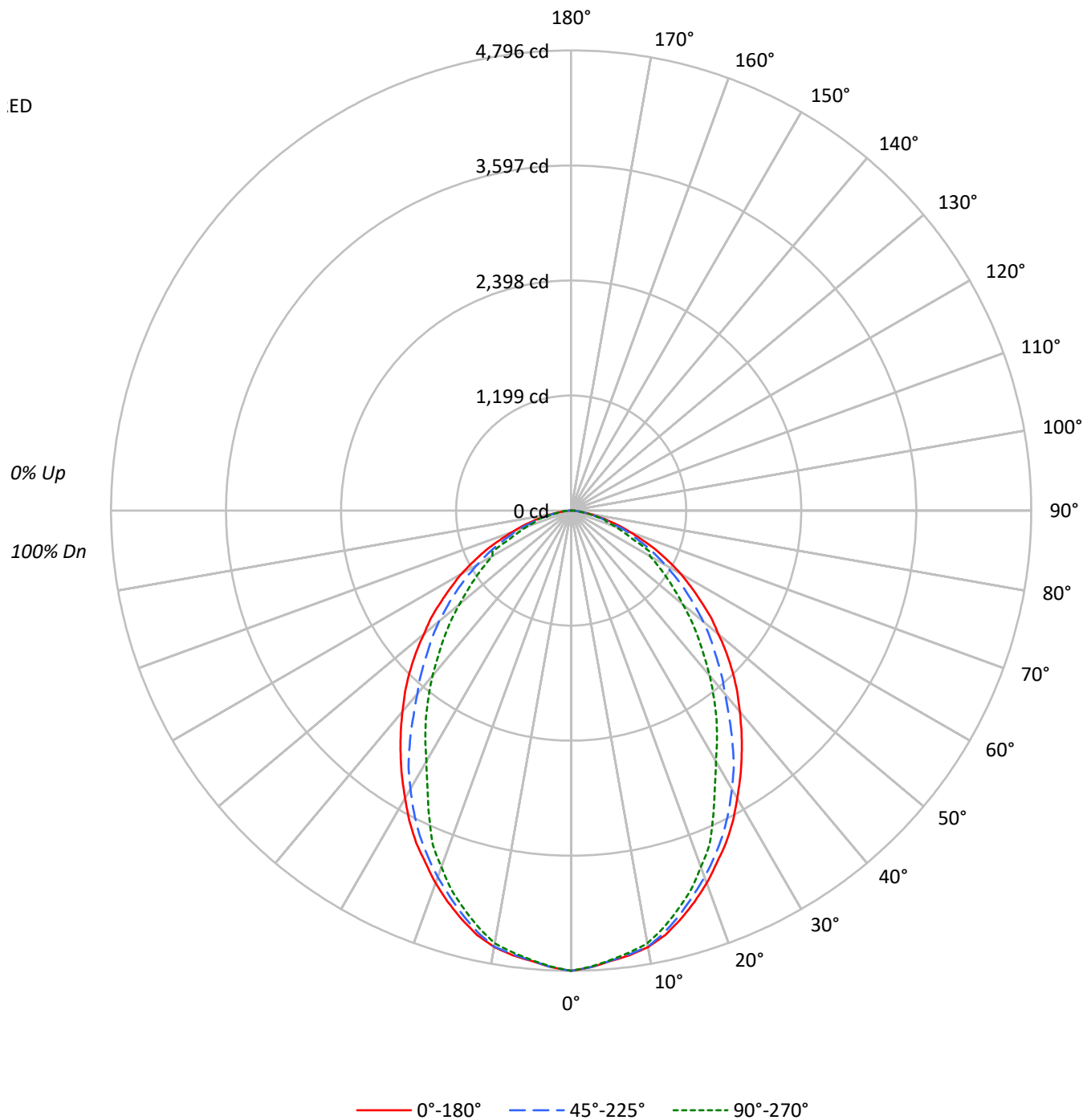
Lumens per Lamp: N/A  
Luminaire Lumens: 9416.0 lumens  
Efficiency: N/A  
Efficacy: 109.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
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°	6454	6454	6454
5°	6366	6358	6351
10°	6311	6303	6258
15°	6140	6079	5994
20°	5915	5820	5661
25°	5672	5548	5203
30°	5376	5203	4687
35°	5091	4809	4335
40°	4802	4383	3944
45°	4526	4052	3566
50°	4190	3761	3180
55°	3876	3408	2848
60°	3551	3044	2552
65°	3125	2666	2260
70°	2574	2334	1920
75°	2047	1787	1874
80°	1375	1289	1203
85°	855	1027	1198

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4526 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	446.5	4.7
10°-20°	1225.3	13.0
20°-30°	1696.4	18.0
30°-40°	1808.8	19.2
40°-50°	1650.2	17.5
50°-60°	1292.8	13.7
60°-70°	842.6	8.9
70°-80°	373.3	4.0
80°-90°	80.2	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°	3368.2	35.8
0°-40°	5177.0	55.0
0°-60°	8120.0	86.2
0°-90°	9416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9416.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4796	4796	4796	4796	4796	
5°	4713	4708	4708	4702	4702	447
15°	4408	4408	4364	4320	4303	1239
25°	3820	3798	3737	3604	3504	1754
35°	3100	3077	2928	2706	2639	1938
45°	2379	2329	2129	1952	1874	1832
55°	1652	1602	1453	1281	1214	1482
65°	982	926	837	854	710	967
75°	394	366	344	327	360	422
85°	55	61	66	72	78	77
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4796.4	4796.4	4796.4	4796.4	4796.4
2.5°	4763.1	4763.1	4763.1	4757.6	4757.6
5°	4713.2	4707.7	4707.7	4702.1	4702.1
7.5°	4674.4	4668.9	4663.3	4657.8	4646.7
10°	4618.9	4618.9	4613.4	4585.7	4580.1
12.5°	4530.2	4524.7	4502.5	4463.7	4452.6
15°	4408.2	4408.2	4363.9	4319.5	4302.9
17.5°	4275.2	4269.6	4214.2	4169.8	4147.6
20°	4131.0	4119.9	4064.5	3992.4	3953.6
22.5°	3970.2	3970.2	3903.6	3809.4	3770.6
25°	3820.5	3798.3	3737.3	3604.2	3504.4
27.5°	3648.6	3615.3	3548.8	3360.2	3243.8
30°	3460.1	3443.4	3349.2	3105.2	3016.5
32.5°	3282.6	3254.9	3155.1	2900.0	2827.9
35°	3099.6	3077.4	2927.7	2705.9	2639.4
37.5°	2916.6	2888.9	2700.4	2523.0	2439.8
40°	2733.7	2700.4	2495.2	2334.4	2245.7
42.5°	2561.8	2517.4	2317.8	2145.9	2046.1
45°	2378.8	2328.9	2129.3	1951.8	1874.2
47.5°	2195.8	2151.4	1968.5	1785.5	1696.8
50°	2001.7	1962.9	1796.6	1613.6	1519.3
52.5°	1840.9	1779.9	1619.1	1436.1	1358.5
55°	1652.4	1602.5	1452.8	1280.9	1214.3
57.5°	1480.5	1430.6	1292.0	1131.2	1075.7
60°	1319.7	1247.6	1131.2	992.5	948.2
62.5°	1142.3	1086.8	987.0	870.6	926.0
65°	981.5	926.0	837.3	853.9	709.8
67.5°	804.0	776.3	698.7	621.0	598.9
70°	654.3	621.0	593.3	510.1	488.0
72.5°	521.2	488.0	449.1	404.8	388.1
75°	393.7	366.0	343.8	327.2	360.4
77.5°	271.7	260.6	244.0	227.3	221.8
80°	177.4	171.9	166.3	160.8	155.3
82.5°	105.4	105.4	105.4	105.4	105.4
85°	55.4	61.0	66.5	72.1	77.6
87.5°	33.3	33.3	38.8	44.4	49.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)