

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: P561839

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561839  
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-93-97-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

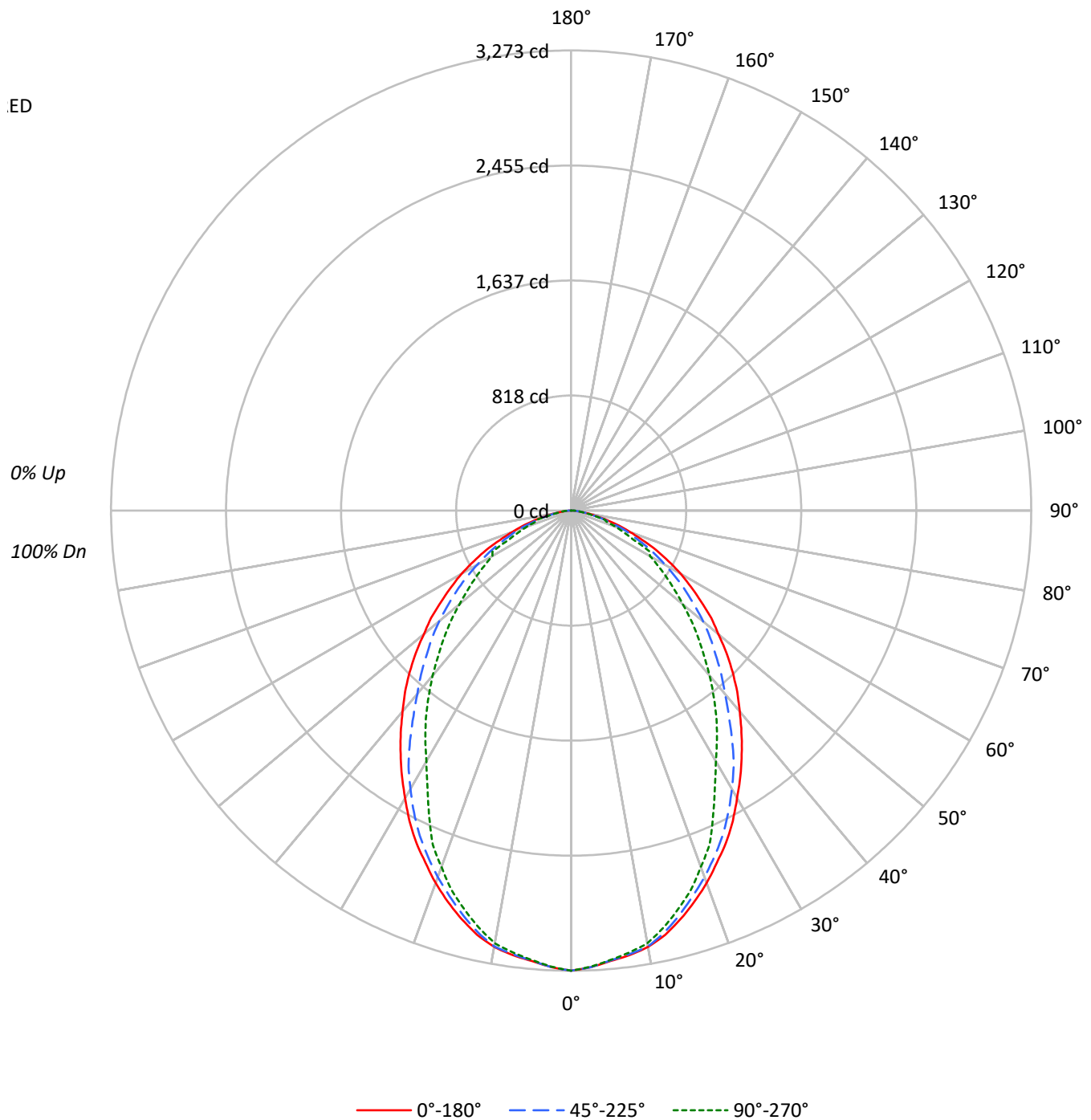
Lumens per Lamp: N/A  
Luminaire Lumens: 6425.0 lumens  
Efficiency: N/A  
Efficacy: 96.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8807	8807	8807
5°	8688	8677	8667
10°	8612	8602	8540
15°	8380	8296	8180
20°	8072	7942	7725
25°	7740	7572	7100
30°	7336	7101	6396
35°	6948	6563	5916
40°	6552	5981	5383
45°	6177	5529	4867
50°	5718	5132	4340
55°	5290	4651	3887
60°	4846	4154	3482
65°	4264	3638	3084
70°	3513	3185	2620
75°	2793	2439	2557
80°	1877	1759	1641
85°	1167	1402	1636

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6177 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	304.7	4.7
10°-20°	836.1	13.0
20°-30°	1157.5	18.0
30°-40°	1234.3	19.2
40°-50°	1126.0	17.5
50°-60°	882.1	13.7
60°-70°	574.9	8.9
70°-80°	254.7	4.0
80°-90°	54.7	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°	2298.3	35.8
0°-40°	3532.5	55.0
0°-60°	5540.7	86.2
0°-90°	6425.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6425.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3273	3273	3273	3273	3273	
5°	3216	3212	3212	3208	3208	305
15°	3008	3008	2978	2947	2936	846
25°	2607	2592	2550	2459	2391	1197
35°	2115	2100	1998	1846	1801	1322
45°	1623	1589	1453	1332	1279	1250
55°	1128	1094	991	874	829	1011
65°	670	632	571	583	484	660
75°	269	250	235	223	246	288
85°	38	42	45	49	53	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3272.8	3272.8	3272.8	3272.8	3272.8
2.5°	3250.1	3250.1	3250.1	3246.3	3246.3
5°	3216.1	3212.3	3212.3	3208.5	3208.5
7.5°	3189.6	3185.8	3182.0	3178.2	3170.7
10°	3151.7	3151.7	3148.0	3129.0	3125.2
12.5°	3091.2	3087.4	3072.3	3045.8	3038.2
15°	3008.0	3008.0	2977.7	2947.4	2936.1
17.5°	2917.2	2913.4	2875.5	2845.3	2830.1
20°	2818.8	2811.2	2773.4	2724.2	2697.7
22.5°	2709.1	2709.1	2663.7	2599.3	2572.8
25°	2606.9	2591.8	2550.1	2459.3	2391.2
27.5°	2489.6	2466.9	2421.5	2292.9	2213.4
30°	2361.0	2349.6	2285.3	2118.8	2058.3
32.5°	2239.9	2221.0	2152.9	1978.8	1929.6
35°	2115.0	2099.9	1997.7	1846.4	1801.0
37.5°	1990.2	1971.3	1842.6	1721.5	1664.8
40°	1865.3	1842.6	1702.6	1592.9	1532.4
42.5°	1748.0	1717.8	1581.5	1464.3	1396.1
45°	1623.2	1589.1	1452.9	1331.8	1278.9
47.5°	1498.3	1468.0	1343.2	1218.3	1157.8
50°	1365.9	1339.4	1225.9	1101.0	1036.7
52.5°	1256.2	1214.5	1104.8	980.0	927.0
55°	1127.5	1093.5	991.3	874.0	828.6
57.5°	1010.2	976.2	881.6	771.9	734.0
60°	900.5	851.3	771.9	677.3	647.0
62.5°	779.4	741.6	673.5	594.0	631.9
65°	669.7	631.9	571.3	582.7	484.3
67.5°	548.6	529.7	476.7	423.8	408.6
70°	446.5	423.8	404.8	348.1	333.0
72.5°	355.7	333.0	306.5	276.2	264.9
75°	268.6	249.7	234.6	223.2	245.9
77.5°	185.4	177.8	166.5	155.1	151.3
80°	121.1	117.3	113.5	109.7	105.9
82.5°	71.9	71.9	71.9	71.9	71.9
85°	37.8	41.6	45.4	49.2	53.0
87.5°	22.7	22.7	26.5	30.3	34.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)