

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: P589861

Luminaire Tested: FSR-24-2-LD4-1HI-35-UNV-82-84-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589861  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-1HI-35-UNV-82-84-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

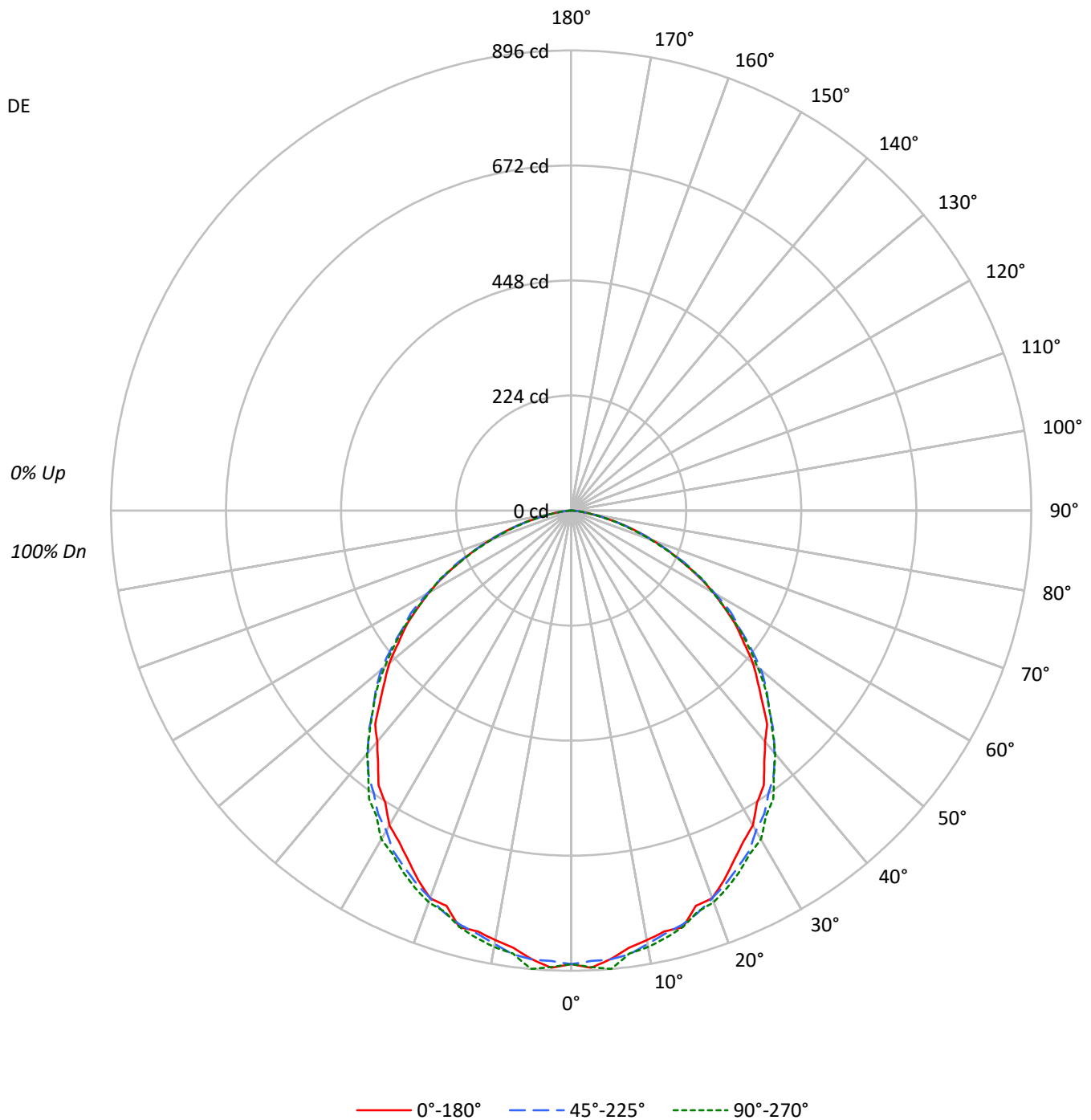
Lumens per Lamp: N/A  
Luminaire Lumens: 2226.0 lumens  
Efficiency: N/A  
Efficacy: 103.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2377	2377	2377
5°	2369	2370	2420
10°	2321	2341	2358
15°	2339	2327	2340
20°	2300	2300	2324
25°	2229	2278	2303
30°	2198	2237	2297
35°	2146	2203	2252
40°	2063	2162	2172
45°	2001	2072	2075
50°	1935	2022	1984
55°	1844	1879	1866
60°	1724	1741	1710
65°	1537	1577	1526
70°	1319	1323	1286
75°	1045	1042	1002
80°	700	680	654
85°	380	377	352

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2125 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.1	3.7
10°-20°	235.5	10.6
20°-30°	352.8	15.8
30°-40°	418.1	18.8
40°-50°	418.9	18.8
50°-60°	355.6	16.0
60°-70°	239.7	10.8
70°-80°	105.3	4.7
80°-90°	17.1	0.8
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°	671.3	30.2
0°-40°	1089.4	48.9
0°-60°	1863.8	83.7
0°-90°	2226.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2226.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	883	883	883	883	883	
5°	877	875	877	875	896	83
15°	840	830	835	839	840	234
25°	751	755	767	777	776	347
35°	653	655	670	686	686	406
45°	526	536	544	558	545	407
55°	393	390	401	398	398	350
65°	241	238	248	238	240	240
75°	100	98	100	93	96	108
85°	12	12	12	12	11	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	883.2	883.2	883.2	883.2	883.2
2.5°	890.9	884.1	877.9	885.2	889.6
5°	876.9	874.9	877.3	874.7	895.8
7.5°	858.9	866.8	871.4	868.5	869.8
10°	849.4	846.6	856.8	863.8	862.8
12.5°	839.1	843.2	843.8	851.4	852.1
15°	839.7	830.0	835.1	839.4	839.8
17.5°	807.0	817.5	821.1	831.0	818.7
20°	803.1	795.4	803.1	813.2	811.6
22.5°	778.5	770.0	786.4	795.4	794.8
25°	750.7	754.8	767.1	777.2	775.6
27.5°	726.3	731.1	748.7	762.5	753.6
30°	707.5	705.1	719.9	732.2	739.1
32.5°	673.8	682.5	699.8	712.1	705.6
35°	653.4	655.4	670.5	686.0	685.6
37.5°	617.7	626.8	648.1	652.4	648.4
40°	587.3	596.3	615.6	620.3	618.3
42.5°	564.8	566.4	583.0	588.3	579.8
45°	525.7	535.5	544.4	558.4	545.2
47.5°	492.4	497.0	516.1	519.9	512.9
50°	462.2	463.8	483.1	478.4	473.8
52.5°	424.2	430.9	441.8	440.9	435.5
55°	393.0	390.4	400.6	397.9	397.8
57.5°	355.5	360.0	368.5	364.1	357.2
60°	320.3	320.4	323.5	318.6	317.7
62.5°	281.2	282.6	283.3	277.2	287.0
65°	241.4	238.2	247.6	238.1	239.7
67.5°	204.8	206.4	205.5	199.6	201.8
70°	167.6	169.7	168.2	161.5	163.5
72.5°	133.7	131.1	132.7	124.3	128.2
75°	100.5	98.4	100.2	93.2	96.4
77.5°	68.4	70.0	68.9	65.1	67.3
80°	45.2	43.9	43.9	41.7	42.2
82.5°	26.3	25.1	24.7	24.1	25.1
85°	12.3	12.0	12.2	11.9	11.4
87.5°	4.4	4.6	4.6	4.3	4.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)