

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: P589853

Luminaire Tested: FSR-24-2-LD4-1HI-35-UNV-81-84-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589853  
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-81-84-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

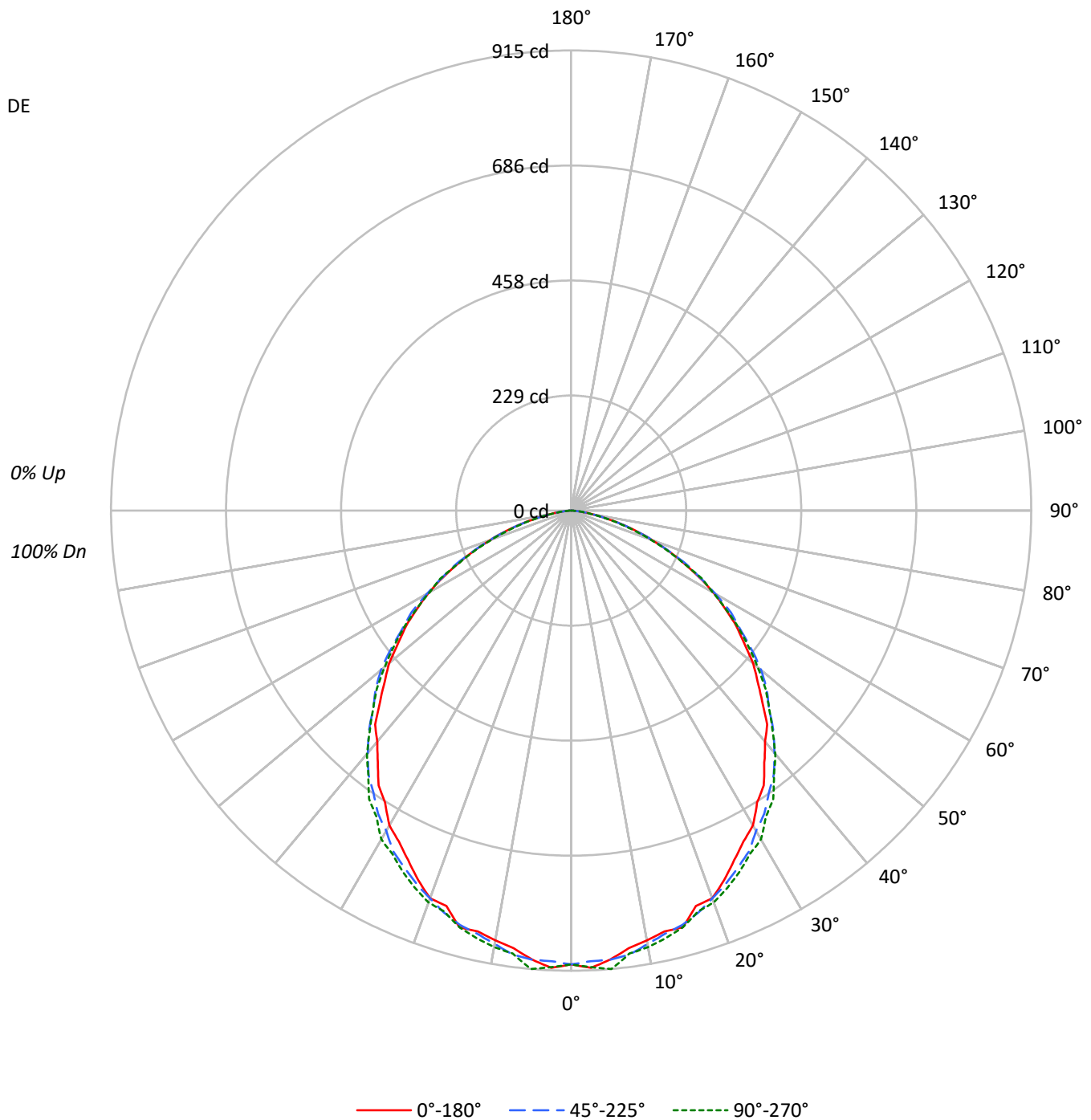
Lumens per Lamp: N/A  
Luminaire Lumens: 2274.0 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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



TEST NUMBER: P589853

CATALOG NUMBER: FSR-24-2-LD4-1HI-35-UNV-81-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589853

CATALOG NUMBER: FSR-24-2-LD4-1HI-35-UNV-81-84-EDD

**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	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°	2428	2428	2428
5°	2420	2421	2472
10°	2371	2391	2408
15°	2390	2377	2390
20°	2349	2349	2374
25°	2277	2327	2352
30°	2246	2285	2346
35°	2193	2250	2301
40°	2108	2209	2219
45°	2044	2117	2120
50°	1977	2066	2026
55°	1883	1920	1906
60°	1761	1779	1747
65°	1570	1610	1559
70°	1347	1352	1315
75°	1067	1065	1023
80°	714	696	668
85°	389	386	358

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2171 cd/sqm

TEST NUMBER: P589853

CATALOG NUMBER: FSR-24-2-LD4-1HI-35-UNV-81-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.9	3.7
10°-20°	240.5	10.6
20°-30°	360.4	15.8
30°-40°	427.1	18.8
40°-50°	427.9	18.8
50°-60°	363.2	16.0
60°-70°	244.9	10.8
70°-80°	107.6	4.7
80°-90°	17.5	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°	685.8	30.2
0°-40°	1112.9	48.9
0°-60°	1904.0	83.7
0°-90°	2274.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2274.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	902	902	902	902	902	
5°	896	894	896	894	915	84
15°	858	848	853	858	858	239
25°	767	771	784	794	792	355
35°	668	670	685	701	700	414
45°	537	547	556	570	557	415
55°	401	399	409	406	406	357
65°	247	243	253	243	245	245
75°	103	100	102	95	98	110
85°	13	12	12	12	12	18
90°	0	0	0	0	0	



TEST NUMBER: P589853

CATALOG NUMBER: FSR-24-2-LD4-1HI-35-UNV-81-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	902.3	902.3	902.3	902.3	902.3
2.5°	910.1	903.2	896.8	904.2	908.8
5°	895.9	893.8	896.2	893.5	915.1
7.5°	877.5	885.5	890.2	887.2	888.5
10°	867.7	864.9	875.2	882.5	881.4
12.5°	857.2	861.4	862.0	869.8	870.5
15°	857.8	847.9	853.1	857.5	857.9
17.5°	824.4	835.2	838.8	848.9	836.3
20°	820.4	812.6	820.4	830.7	829.1
22.5°	795.3	786.6	803.4	812.6	812.0
25°	766.9	771.1	783.7	793.9	792.3
27.5°	742.0	746.9	764.8	778.9	769.8
30°	722.7	720.3	735.4	748.0	755.0
32.5°	688.4	697.2	714.9	727.4	720.8
35°	667.5	669.5	685.0	700.8	700.4
37.5°	631.1	640.3	662.0	666.5	662.4
40°	600.0	609.2	628.8	633.6	631.6
42.5°	577.0	578.6	595.5	601.0	592.3
45°	537.0	547.1	556.2	570.5	557.0
47.5°	503.0	507.7	527.3	531.1	524.0
50°	472.2	473.8	493.5	488.7	484.0
52.5°	433.4	440.2	451.3	450.4	444.9
55°	401.4	398.8	409.3	406.5	406.3
57.5°	363.1	367.8	376.4	372.0	364.9
60°	327.2	327.4	330.5	325.5	324.6
62.5°	287.3	288.7	289.4	283.2	293.2
65°	246.6	243.4	252.9	243.2	244.9
67.5°	209.2	210.9	209.9	203.9	206.2
70°	171.2	173.3	171.8	165.0	167.1
72.5°	136.5	134.0	135.6	127.0	130.9
75°	102.6	100.5	102.4	95.2	98.4
77.5°	69.9	71.5	70.4	66.5	68.7
80°	46.1	44.9	44.9	42.6	43.1
82.5°	26.9	25.6	25.3	24.6	25.6
85°	12.6	12.2	12.5	12.1	11.6
87.5°	4.5	4.7	4.7	4.4	4.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)