

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: P563057

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563057  
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-LD4-3HI-35-UNV-80-84-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

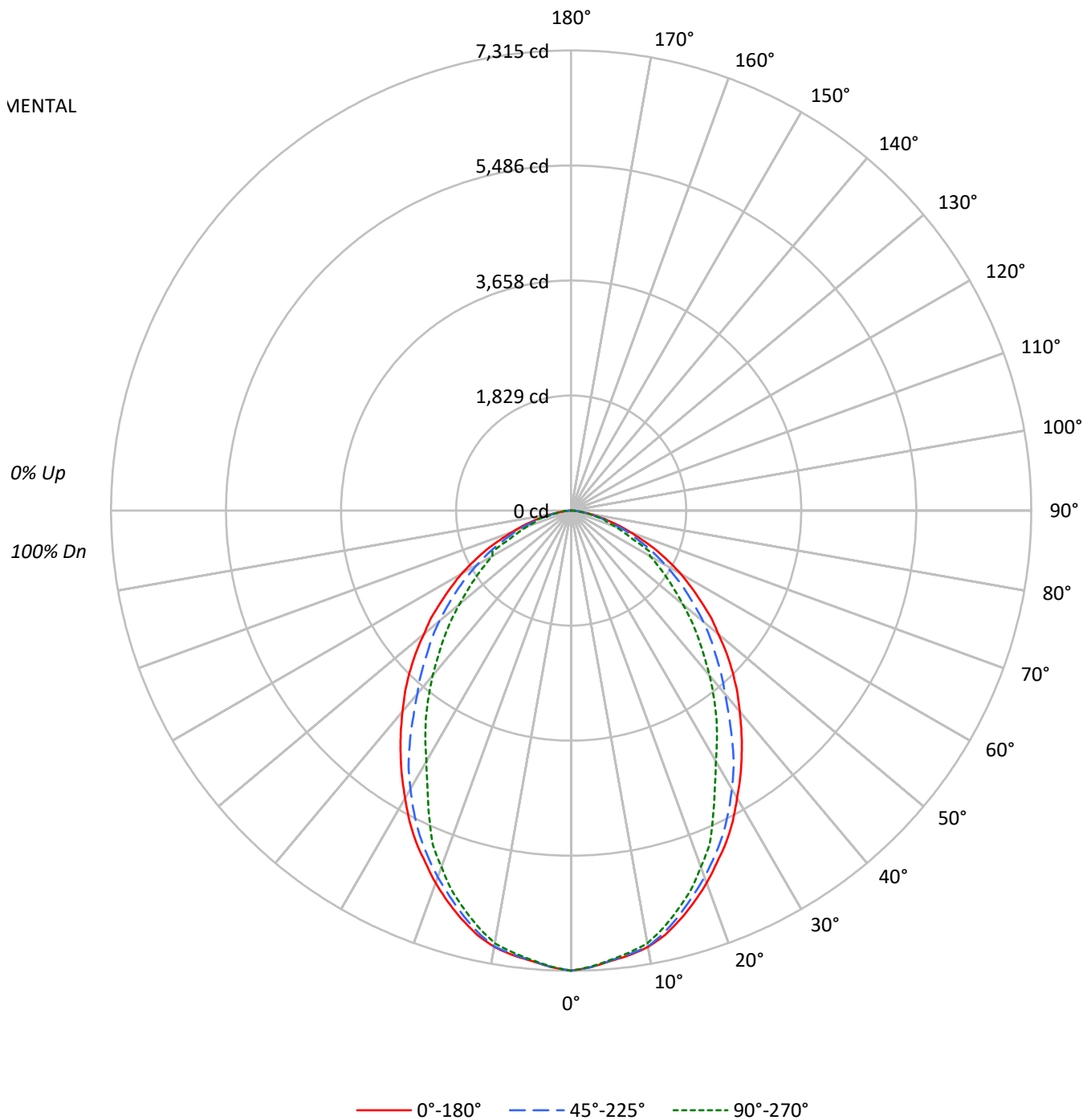
Lumens per Lamp: N/A  
Luminaire Lumens: 14360.0 lumens  
Efficiency: N/A  
Efficacy: 110.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P563057

CATALOG NUMBER: FSR-24-4-LD4-3HI-35-UNV-80-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P563057

CATALOG NUMBER: FSR-24-4-LD4-3HI-35-UNV-80-84-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	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°	9842	9842	9842
5°	9708	9697	9685
10°	9624	9612	9543
15°	9365	9270	9141
20°	9021	8875	8633
25°	8650	8462	7934
30°	8198	7936	7147
35°	7764	7334	6612
40°	7322	6684	6015
45°	6903	6179	5439
50°	6390	5735	4850
55°	5911	5197	4344
60°	5416	4642	3891
65°	4765	4065	3446
70°	3926	3559	2928
75°	3121	2726	2858
80°	2097	1966	1835
85°	1306	1567	1828

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6903 cd/sqm



TEST NUMBER: P563057

CATALOG NUMBER: FSR-24-4-LD4-3HI-35-UNV-80-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	680.9	4.7
10°-20°	1868.7	13.0
20°-30°	2587.1	18.0
30°-40°	2758.6	19.2
40°-50°	2516.6	17.5
50°-60°	1971.6	13.7
60°-70°	1285.0	8.9
70°-80°	569.3	4.0
80°-90°	122.2	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°	5136.7	35.8
0°-40°	7895.3	55.0
0°-60°	12383.5	86.2
0°-90°	14360.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14360.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7315	7315	7315	7315	7315	
5°	7188	7180	7180	7171	7171	682
15°	6723	6723	6655	6588	6562	1890
25°	5826	5793	5700	5497	5344	2675
35°	4727	4693	4465	4127	4025	2955
45°	3628	3552	3247	2977	2858	2794
55°	2520	2444	2216	1953	1852	2260
65°	1497	1412	1277	1302	1082	1475
75°	600	558	524	499	550	643
85°	85	93	102	110	118	117
90°	0	0	0	0	0	



TEST NUMBER: P563057

CATALOG NUMBER: FSR-24-4-LD4-3HI-35-UNV-80-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7314.8	7314.8	7314.8	7314.8	7314.8
2.5°	7264.1	7264.1	7264.1	7255.6	7255.6
5°	7187.9	7179.5	7179.5	7171.0	7171.0
7.5°	7128.8	7120.3	7111.8	7103.4	7086.5
10°	7044.2	7044.2	7035.7	6993.4	6985.0
12.5°	6908.9	6900.4	6866.6	6807.4	6790.5
15°	6722.8	6722.8	6655.2	6587.5	6562.2
17.5°	6519.9	6511.4	6426.9	6359.2	6325.4
20°	6300.0	6283.1	6198.5	6088.6	6029.4
22.5°	6054.8	6054.8	5953.3	5809.6	5750.4
25°	5826.5	5792.6	5699.6	5496.7	5344.4
27.5°	5564.3	5513.6	5412.1	5124.6	4947.0
30°	5276.8	5251.4	5107.7	4735.6	4600.3
32.5°	5006.2	4963.9	4811.7	4422.7	4312.8
35°	4727.1	4693.3	4465.0	4126.7	4025.2
37.5°	4448.1	4405.8	4118.3	3847.7	3720.8
40°	4169.0	4118.3	3805.4	3560.1	3424.8
42.5°	3906.9	3839.2	3534.8	3272.6	3120.4
45°	3627.8	3551.7	3247.3	2976.7	2858.3
47.5°	3348.7	3281.1	3002.0	2723.0	2587.7
50°	3052.8	2993.6	2739.9	2460.8	2317.1
52.5°	2807.5	2714.5	2469.3	2190.2	2071.8
55°	2520.0	2443.9	2215.6	1953.4	1852.0
57.5°	2257.9	2181.8	1970.3	1725.1	1640.5
60°	2012.6	1902.7	1725.1	1513.7	1446.0
62.5°	1742.0	1657.5	1505.2	1327.7	1412.2
65°	1496.8	1412.2	1276.9	1302.3	1082.4
67.5°	1226.2	1183.9	1065.5	947.1	913.3
70°	997.9	947.1	904.8	778.0	744.2
72.5°	794.9	744.2	685.0	617.3	591.9
75°	600.4	558.1	524.3	498.9	549.7
77.5°	414.4	397.5	372.1	346.7	338.3
80°	270.6	262.1	253.7	245.2	236.8
82.5°	160.7	160.7	160.7	160.7	160.7
85°	84.6	93.0	101.5	109.9	118.4
87.5°	50.7	50.7	59.2	67.7	76.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)