

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: P562242

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562242  
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-LD4-1LO-50-UNV-81-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

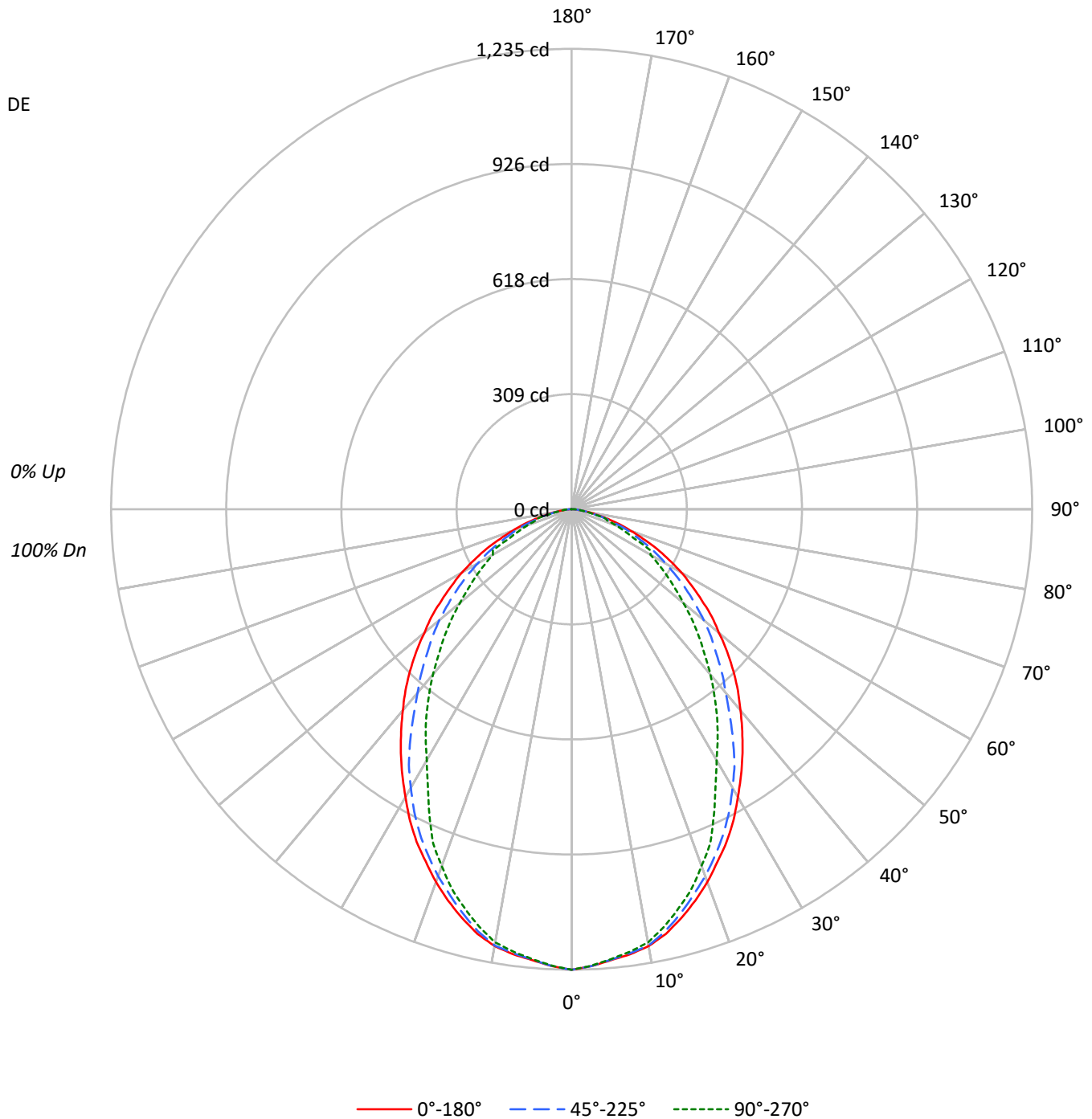
Lumens per Lamp: N/A  
Luminaire Lumens: 2425.0 lumens  
Efficiency: N/A  
Efficacy: 103.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	1662	1662	1662
5°	1639	1638	1636
10°	1625	1623	1612
15°	1581	1566	1544
20°	1523	1499	1458
25°	1461	1429	1340
30°	1384	1340	1207
35°	1311	1238	1117
40°	1237	1129	1016
45°	1166	1044	918
50°	1079	969	819
55°	998	878	734
60°	915	784	657
65°	805	686	582
70°	663	601	494
75°	527	460	482
80°	354	332	310
85°	221	264	309

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1166 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.0	4.7
10°-20°	315.6	13.0
20°-30°	436.9	18.0
30°-40°	465.9	19.2
40°-50°	425.0	17.5
50°-60°	332.9	13.7
60°-70°	217.0	8.9
70°-80°	96.1	4.0
80°-90°	20.6	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°	867.4	35.8
0°-40°	1333.3	55.0
0°-60°	2091.2	86.2
0°-90°	2425.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2425.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1235	1235	1235	1235	1235	
5°	1214	1212	1212	1211	1211	115
15°	1135	1135	1124	1112	1108	319
25°	984	978	962	928	902	452
35°	798	793	754	697	680	499
45°	613	600	548	503	483	472
55°	426	413	374	330	313	382
65°	253	238	216	220	183	249
75°	101	94	88	84	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1235.3	1235.3	1235.3	1235.3	1235.3
2.5°	1226.7	1226.7	1226.7	1225.3	1225.3
5°	1213.8	1212.4	1212.4	1211.0	1211.0
7.5°	1203.8	1202.4	1201.0	1199.6	1196.7
10°	1189.6	1189.6	1188.1	1181.0	1179.6
12.5°	1166.7	1165.3	1159.6	1149.6	1146.7
15°	1135.3	1135.3	1123.9	1112.5	1108.2
17.5°	1101.0	1099.6	1085.3	1073.9	1068.2
20°	1063.9	1061.0	1046.8	1028.2	1018.2
22.5°	1022.5	1022.5	1005.3	981.1	971.1
25°	983.9	978.2	962.5	928.2	902.5
27.5°	939.7	931.1	914.0	865.4	835.4
30°	891.1	886.8	862.5	799.7	776.9
32.5°	845.4	838.3	812.6	746.9	728.3
35°	798.3	792.6	754.0	696.9	679.8
37.5°	751.2	744.0	695.5	649.8	628.3
40°	704.0	695.5	642.6	601.2	578.4
42.5°	659.8	648.3	596.9	552.7	527.0
45°	612.6	599.8	548.4	502.7	482.7
47.5°	565.5	554.1	507.0	459.8	437.0
50°	515.5	505.5	462.7	415.6	391.3
52.5°	474.1	458.4	417.0	369.9	349.9
55°	425.6	412.7	374.1	329.9	312.7
57.5°	381.3	368.4	332.7	291.3	277.0
60°	339.9	321.3	291.3	255.6	244.2
62.5°	294.2	279.9	254.2	224.2	238.5
65°	252.8	238.5	215.6	219.9	182.8
67.5°	207.1	199.9	179.9	159.9	154.2
70°	168.5	159.9	152.8	131.4	125.7
72.5°	134.2	125.7	115.7	104.2	100.0
75°	101.4	94.3	88.5	84.3	92.8
77.5°	70.0	67.1	62.8	58.6	57.1
80°	45.7	44.3	42.8	41.4	40.0
82.5°	27.1	27.1	27.1	27.1	27.1
85°	14.3	15.7	17.1	18.6	20.0
87.5°	8.6	8.6	10.0	11.4	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)