

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: P562551

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562551  
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-LD4-2HI-40-UNV-80-87-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

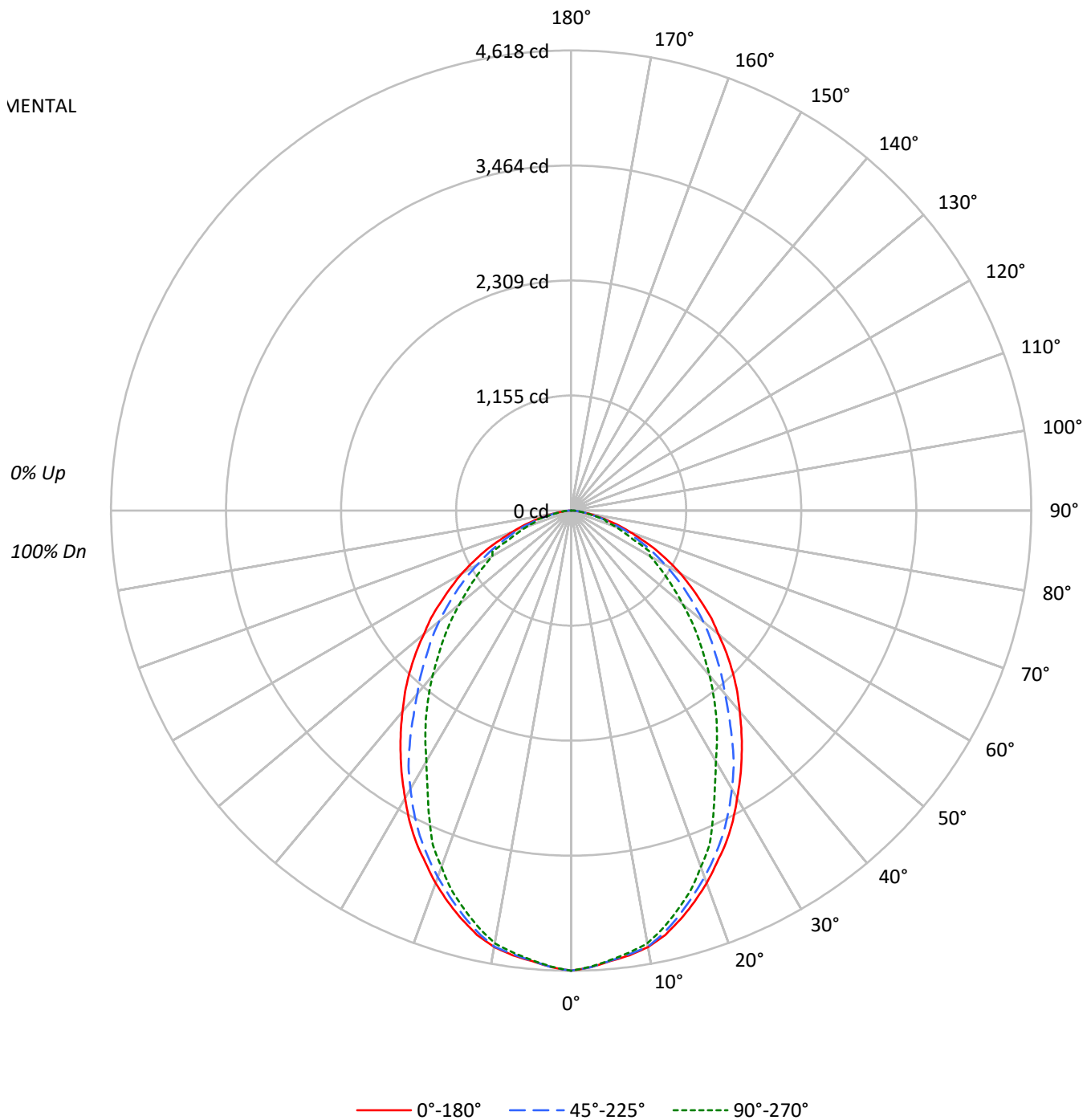
Lumens per Lamp: N/A  
Luminaire Lumens: 9066.0 lumens  
Efficiency: N/A  
Efficacy: 104.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6214	6214	6214
5°	6129	6122	6115
10°	6076	6069	6025
15°	5912	5853	5771
20°	5695	5603	5450
25°	5461	5342	5009
30°	5176	5010	4512
35°	4902	4630	4174
40°	4623	4220	3798
45°	4358	3901	3434
50°	4034	3621	3062
55°	3732	3281	2743
60°	3419	2931	2457
65°	3009	2567	2176
70°	2478	2247	1848
75°	1971	1721	1804
80°	1323	1241	1158
85°	824	990	1153

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4358 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	429.9	4.7
10°-20°	1179.8	13.0
20°-30°	1633.3	18.0
30°-40°	1741.6	19.2
40°-50°	1588.8	17.5
50°-60°	1244.7	13.7
60°-70°	811.3	8.9
70°-80°	359.4	4.0
80°-90°	77.2	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°	3243.0	35.8
0°-40°	4984.6	55.0
0°-60°	7818.2	86.2
0°-90°	9066.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9066.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4618	4618	4618	4618	4618	
5°	4538	4533	4533	4527	4527	431
15°	4244	4244	4202	4159	4143	1193
25°	3678	3657	3598	3470	3374	1689
35°	2984	2963	2819	2605	2541	1866
45°	2290	2242	2050	1879	1804	1764
55°	1591	1543	1399	1233	1169	1427
65°	945	892	806	822	683	931
75°	379	352	331	315	347	406
85°	53	59	64	69	75	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4618.1	4618.1	4618.1	4618.1	4618.1
2.5°	4586.1	4586.1	4586.1	4580.7	4580.7
5°	4538.0	4532.7	4532.7	4527.3	4527.3
7.5°	4500.6	4495.3	4490.0	4484.6	4474.0
10°	4447.3	4447.3	4441.9	4415.2	4409.9
12.5°	4361.8	4356.5	4335.1	4297.8	4287.1
15°	4244.4	4244.4	4201.7	4159.0	4142.9
17.5°	4116.2	4110.9	4057.5	4014.8	3993.5
20°	3977.4	3966.8	3913.4	3844.0	3806.6
22.5°	3822.6	3822.6	3758.5	3667.8	3630.4
25°	3678.5	3657.1	3598.4	3470.2	3374.1
27.5°	3513.0	3480.9	3416.9	3235.3	3123.2
30°	3331.4	3315.4	3224.7	2989.8	2904.3
32.5°	3160.6	3133.9	3037.8	2792.2	2722.8
35°	2984.4	2963.1	2818.9	2605.4	2541.3
37.5°	2808.2	2781.5	2600.0	2429.2	2349.1
40°	2632.0	2600.0	2402.5	2247.7	2162.2
42.5°	2466.5	2423.8	2231.6	2066.1	1970.0
45°	2290.4	2242.3	2050.1	1879.3	1804.5
47.5°	2114.2	2071.5	1895.3	1719.1	1633.7
50°	1927.3	1890.0	1729.8	1553.6	1462.8
52.5°	1772.5	1713.8	1558.9	1382.8	1308.0
55°	1591.0	1542.9	1398.8	1233.3	1169.2
57.5°	1425.5	1377.4	1244.0	1089.1	1035.7
60°	1270.6	1201.2	1089.1	955.7	912.9
62.5°	1099.8	1046.4	950.3	838.2	891.6
65°	945.0	891.6	806.2	822.2	683.4
67.5°	774.1	747.4	672.7	598.0	576.6
70°	630.0	598.0	571.3	491.2	469.8
72.5°	501.9	469.8	432.4	389.7	373.7
75°	379.1	352.4	331.0	315.0	347.0
77.5°	261.6	250.9	234.9	218.9	213.6
80°	170.8	165.5	160.2	154.8	149.5
82.5°	101.4	101.4	101.4	101.4	101.4
85°	53.4	58.7	64.1	69.4	74.7
87.5°	32.0	32.0	37.4	42.7	48.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)