

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: P563739

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-82-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563739  
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-LD4-4HI-40-UNV-82-94-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

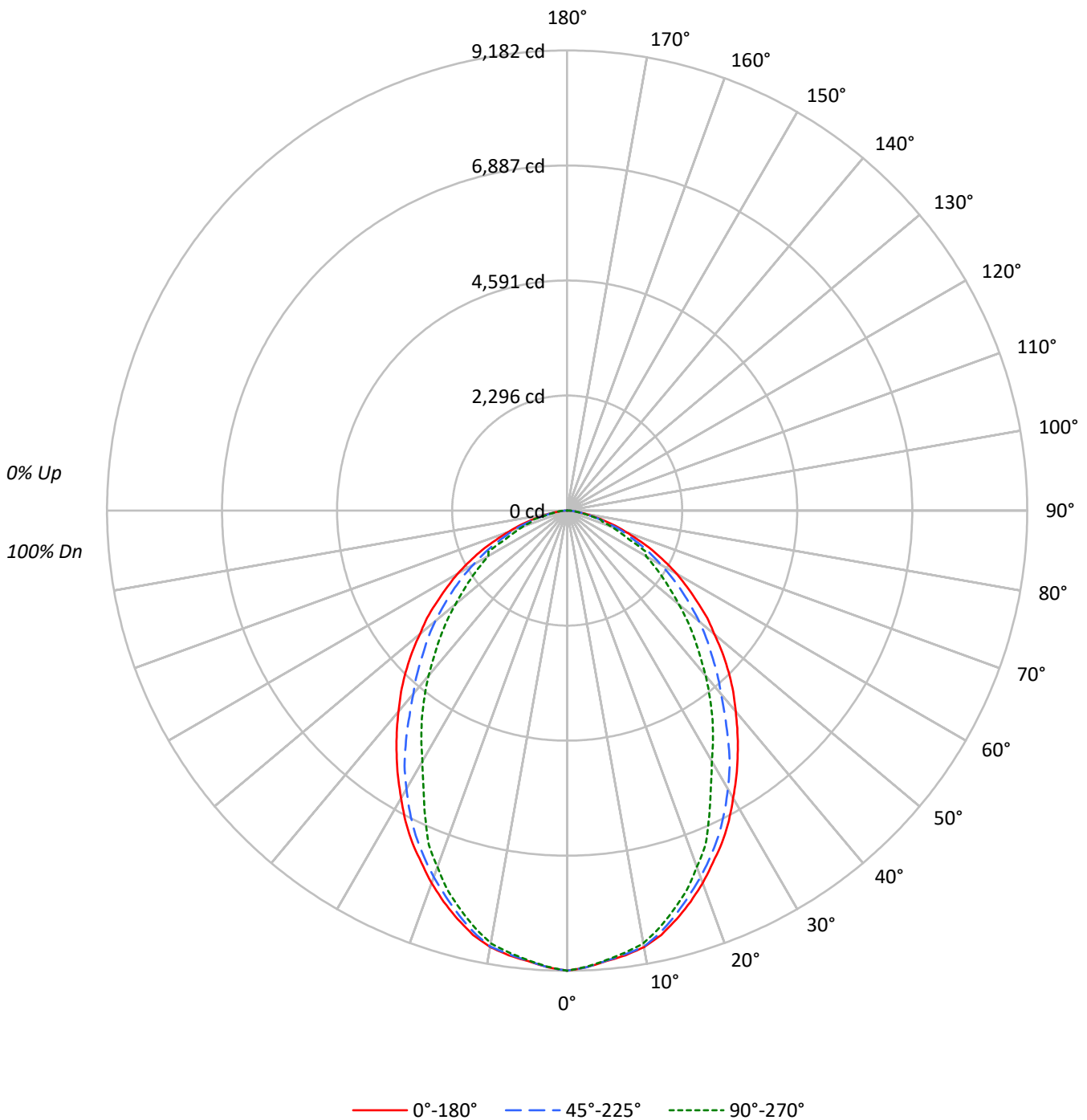
Lumens per Lamp: N/A  
Luminaire Lumens: 18026.0 lumens  
Efficiency: N/A  
Efficacy: 104.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32

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

	0°	45°	90°
0°	12355	12355	12355
5°	12187	12172	12158
10°	12081	12067	11980
15°	11755	11637	11474
20°	11324	11141	10837
25°	10858	10622	9960
30°	10291	9961	8972
35°	9747	9206	8300
40°	9192	8390	7551
45°	8665	7756	6827
50°	8021	7199	6088
55°	7420	6524	5453
60°	6798	5827	4885
65°	5982	5103	4326
70°	4928	4468	3675
75°	3918	3421	3587
80°	2632	2468	2303
85°	1639	1967	2294

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8665 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	854.7	4.7
10°-20°	2345.8	13.0
20°-30°	3247.5	18.0
30°-40°	3462.8	19.2
40°-50°	3159.1	17.5
50°-60°	2474.9	13.7
60°-70°	1613.0	8.9
70°-80°	714.6	4.0
80°-90°	153.4	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°	6448.0	35.8
0°-40°	9910.9	55.0
0°-60°	15544.9	86.2
0°-90°	18026.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18026.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9182	9182	9182	9182	9182	
5°	9023	9012	9012	9002	9002	856
15°	8439	8439	8354	8269	8237	2372
25°	7314	7272	7155	6900	6709	3358
35°	5934	5892	5605	5180	5053	3710
45°	4554	4458	4076	3737	3588	3508
55°	3163	3068	2781	2452	2325	2837
65°	1879	1773	1603	1635	1359	1852
75°	754	701	658	626	690	808
85°	106	117	127	138	149	147
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9182.2	9182.2	9182.2	9182.2	9182.2
2.5°	9118.5	9118.5	9118.5	9107.9	9107.9
5°	9023.0	9012.4	9012.4	9001.7	9001.7
7.5°	8948.7	8938.1	8927.4	8916.8	8895.6
10°	8842.5	8842.5	8831.9	8778.8	8768.2
12.5°	8672.7	8662.1	8619.6	8545.3	8524.1
15°	8439.1	8439.1	8354.2	8269.3	8237.4
17.5°	8184.4	8173.8	8067.6	7982.7	7940.2
20°	7908.4	7887.1	7781.0	7643.0	7568.7
22.5°	7600.5	7600.5	7473.1	7292.7	7218.4
25°	7313.9	7271.5	7154.7	6899.9	6708.8
27.5°	6984.8	6921.2	6793.8	6432.9	6209.9
30°	6623.9	6592.1	6411.6	5944.5	5774.7
32.5°	6284.2	6231.2	6040.1	5551.8	5413.8
35°	5933.9	5891.5	5604.9	5180.2	5052.9
37.5°	5583.6	5530.6	5169.6	4829.9	4670.7
40°	5233.3	5169.6	4776.9	4469.0	4299.2
42.5°	4904.3	4819.3	4437.2	4108.1	3917.0
45°	4553.9	4458.4	4076.3	3736.6	3588.0
47.5°	4203.6	4118.7	3768.4	3418.1	3248.3
50°	3832.1	3757.8	3439.3	3089.0	2908.6
52.5°	3524.3	3407.5	3099.7	2749.4	2600.7
55°	3163.3	3067.8	2781.2	2452.1	2324.7
57.5°	2834.3	2738.7	2473.4	2165.5	2059.4
60°	2526.4	2388.4	2165.5	1900.1	1815.2
62.5°	2186.7	2080.6	1889.5	1666.6	1772.7
65°	1878.9	1772.7	1602.9	1634.8	1358.8
67.5°	1539.2	1486.1	1337.5	1188.9	1146.4
70°	1252.6	1188.9	1135.8	976.6	934.1
72.5°	997.8	934.1	859.8	774.9	743.1
75°	753.7	700.6	658.1	626.3	690.0
77.5°	520.1	498.9	467.1	435.2	424.6
80°	339.7	329.1	318.5	307.8	297.2
82.5°	201.7	201.7	201.7	201.7	201.7
85°	106.2	116.8	127.4	138.0	148.6
87.5°	63.7	63.7	74.3	84.9	95.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)