

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: P562737

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562737  
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-LD4-2LO-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

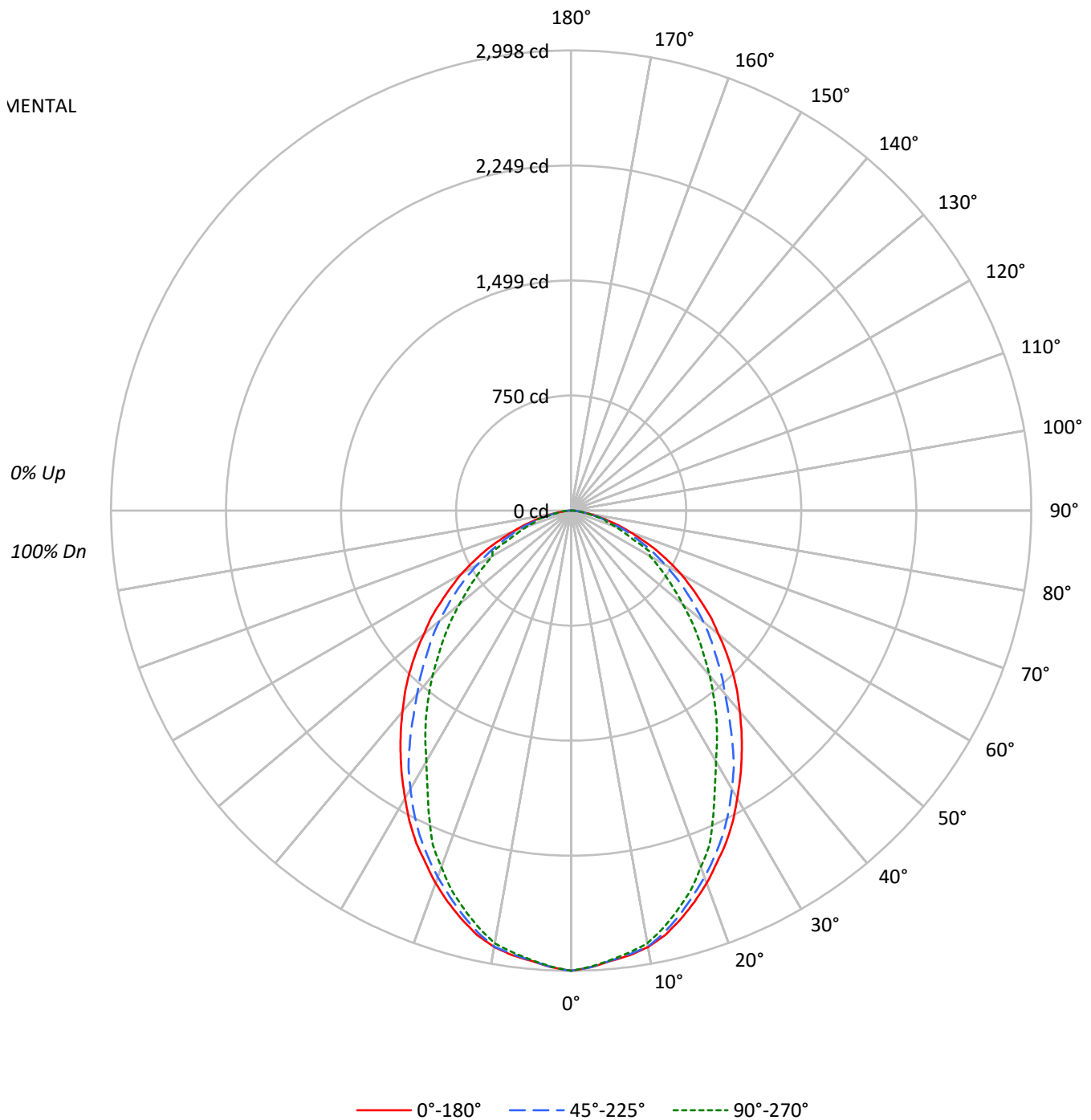
Lumens per Lamp: N/A  
Luminaire Lumens: 5886.0 lumens  
Efficiency: N/A  
Efficacy: 125.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

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

	0°	45°	90°
0°	4034	4034	4034
5°	3979	3975	3970
10°	3945	3940	3912
15°	3838	3800	3747
20°	3697	3638	3539
25°	3545	3468	3252
30°	3360	3253	2930
35°	3183	3006	2710
40°	3001	2740	2466
45°	2829	2533	2229
50°	2619	2351	1988
55°	2423	2130	1781
60°	2220	1903	1595
65°	1953	1666	1413
70°	1609	1459	1200
75°	1279	1117	1171
80°	859	806	752
85°	536	642	749

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2829 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	279.1	4.7
10°-20°	766.0	13.0
20°-30°	1060.4	18.0
30°-40°	1130.7	19.2
40°-50°	1031.5	17.5
50°-60°	808.1	13.7
60°-70°	526.7	8.9
70°-80°	233.3	4.0
80°-90°	50.1	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°	2105.5	35.8
0°-40°	3236.2	55.0
0°-60°	5075.8	86.2
0°-90°	5886.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5886.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2998	2998	2998	2998	2998	
5°	2946	2943	2943	2939	2939	280
15°	2756	2756	2728	2700	2690	775
25°	2388	2374	2336	2253	2191	1096
35°	1938	1924	1830	1692	1650	1211
45°	1487	1456	1331	1220	1172	1145
55°	1033	1002	908	801	759	926
65°	614	579	523	534	444	605
75°	246	229	215	204	225	264
85°	35	38	42	45	48	48
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2998.2	2998.2	2998.2	2998.2	2998.2
2.5°	2977.5	2977.5	2977.5	2974.0	2974.0
5°	2946.3	2942.8	2942.8	2939.3	2939.3
7.5°	2922.0	2918.5	2915.1	2911.6	2904.7
10°	2887.3	2887.3	2883.9	2866.5	2863.1
12.5°	2831.9	2828.4	2814.5	2790.3	2783.3
15°	2755.6	2755.6	2727.9	2700.2	2689.8
17.5°	2672.4	2669.0	2634.3	2606.6	2592.7
20°	2582.3	2575.4	2540.7	2495.7	2471.4
22.5°	2481.8	2481.8	2440.2	2381.3	2357.0
25°	2388.2	2374.3	2336.2	2253.0	2190.6
27.5°	2280.7	2260.0	2218.4	2100.5	2027.7
30°	2162.9	2152.5	2093.6	1941.1	1885.6
32.5°	2052.0	2034.7	1972.3	1812.8	1767.8
35°	1937.6	1923.7	1830.1	1691.5	1649.9
37.5°	1823.2	1805.9	1688.0	1577.1	1525.1
40°	1708.8	1688.0	1559.8	1459.3	1403.8
42.5°	1601.4	1573.6	1448.9	1341.4	1279.0
45°	1487.0	1455.8	1331.0	1220.1	1171.6
47.5°	1372.6	1344.9	1230.5	1116.1	1060.7
50°	1251.3	1227.0	1123.0	1008.7	949.7
52.5°	1150.8	1112.6	1012.1	897.7	849.2
55°	1032.9	1001.7	908.1	800.7	759.1
57.5°	925.5	894.3	807.6	707.1	672.4
60°	825.0	779.9	707.1	620.4	592.7
62.5°	714.0	679.4	617.0	544.2	578.9
65°	613.5	578.9	523.4	533.8	443.7
67.5°	502.6	485.3	436.7	388.2	374.3
70°	409.0	388.2	370.9	318.9	305.0
72.5°	325.8	305.0	280.8	253.0	242.6
75°	246.1	228.8	214.9	204.5	225.3
77.5°	169.8	162.9	152.5	142.1	138.6
80°	110.9	107.5	104.0	100.5	97.1
82.5°	65.9	65.9	65.9	65.9	65.9
85°	34.7	38.1	41.6	45.1	48.5
87.5°	20.8	20.8	24.3	27.7	31.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)