

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: P560760

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560760  
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-12-4-LD4-1HI-35-UNV-80-88-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

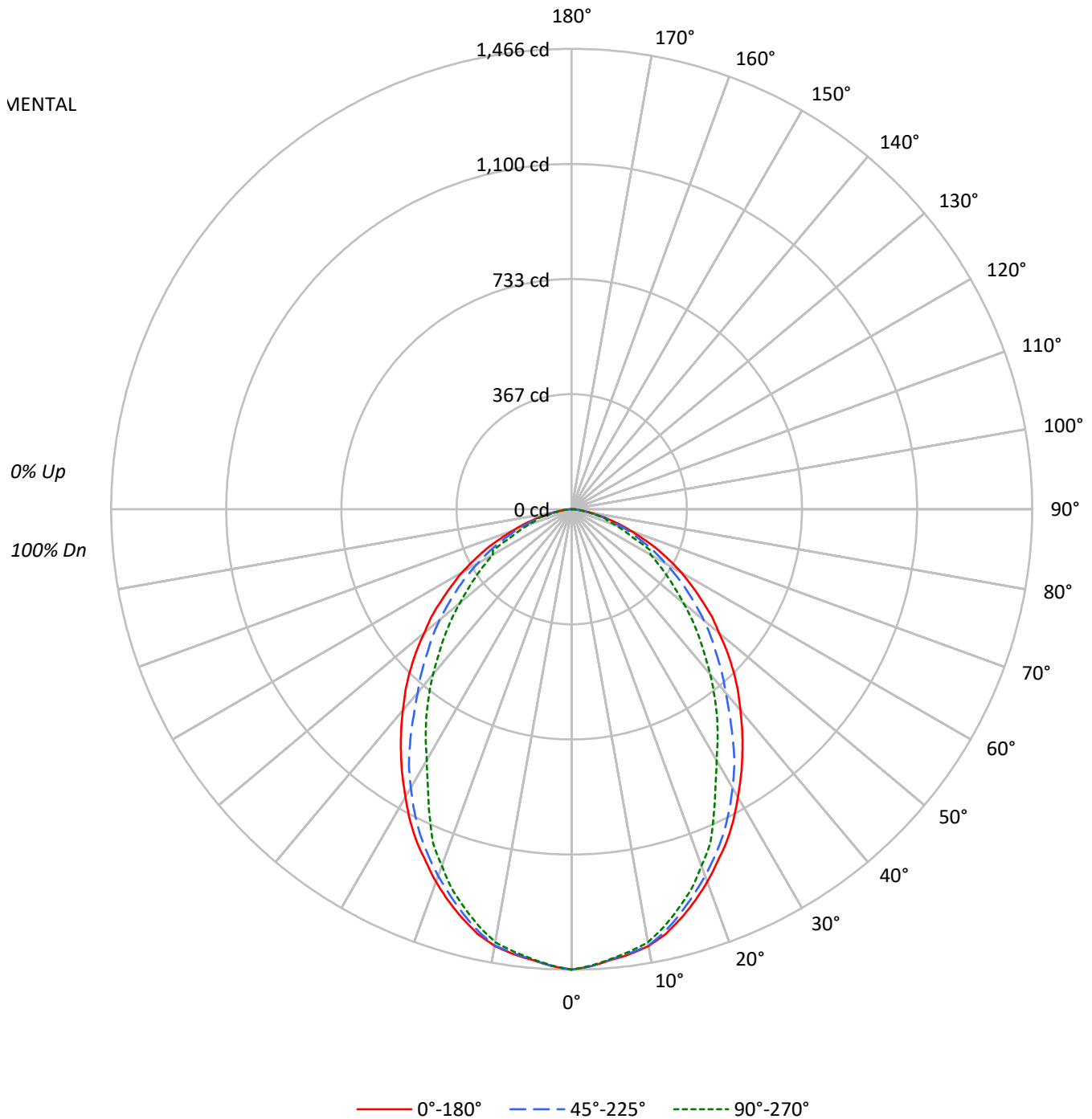
Lumens per Lamp: N/A  
Luminaire Lumens: 2878.0 lumens  
Efficiency: N/A  
Efficacy: 66.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3945	3945	3945
5°	3891	3887	3882
10°	3858	3853	3825
15°	3754	3716	3664
20°	3616	3558	3460
25°	3467	3392	3180
30°	3286	3181	2865
35°	3112	2940	2650
40°	2935	2679	2411
45°	2767	2477	2180
50°	2561	2299	1944
55°	2370	2083	1742
60°	2171	1861	1560
65°	1910	1629	1381
70°	1574	1426	1173
75°	1251	1093	1146
80°	840	787	736
85°	522	627	732

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2767 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.5	4.7
10°-20°	374.5	13.0
20°-30°	518.5	18.0
30°-40°	552.9	19.2
40°-50°	504.4	17.5
50°-60°	395.1	13.7
60°-70°	257.5	8.9
70°-80°	114.1	4.0
80°-90°	24.5	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°	1029.5	35.8
0°-40°	1582.4	55.0
0°-60°	2481.9	86.2
0°-90°	2878.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2878.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1441	1439	1439	1437	1437	137
15°	1347	1347	1334	1320	1315	379
25°	1168	1161	1142	1102	1071	536
35°	947	941	895	827	807	592
45°	727	712	651	597	573	560
55°	505	490	444	392	371	453
65°	300	283	256	261	217	296
75°	120	112	105	100	110	129
85°	17	19	20	22	24	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1466.0	1466.0	1466.0	1466.0	1466.0
2.5°	1455.8	1455.8	1455.8	1454.2	1454.2
5°	1440.6	1438.9	1438.9	1437.2	1437.2
7.5°	1428.7	1427.0	1425.3	1423.6	1420.3
10°	1411.8	1411.8	1410.1	1401.6	1399.9
12.5°	1384.7	1383.0	1376.2	1364.3	1360.9
15°	1347.4	1347.4	1333.8	1320.3	1315.2
17.5°	1306.7	1305.0	1288.1	1274.5	1267.7
20°	1262.6	1259.2	1242.3	1220.3	1208.4
22.5°	1213.5	1213.5	1193.1	1164.3	1152.5
25°	1167.7	1160.9	1142.3	1101.6	1071.1
27.5°	1115.2	1105.0	1084.7	1027.1	991.5
30°	1057.6	1052.5	1023.7	949.1	922.0
32.5°	1003.3	994.9	964.3	886.4	864.4
35°	947.4	940.6	894.9	827.1	806.7
37.5°	891.5	883.0	825.4	771.1	745.7
40°	835.5	825.4	762.7	713.5	686.4
42.5°	783.0	769.4	708.4	655.9	625.4
45°	727.1	711.8	650.8	596.6	572.8
47.5°	671.1	657.6	601.7	545.7	518.6
50°	611.8	600.0	549.1	493.2	464.4
52.5°	562.7	544.0	494.9	439.0	415.2
55°	505.1	489.8	444.0	391.5	371.2
57.5°	452.5	437.3	394.9	345.7	328.8
60°	403.4	381.3	345.7	303.4	289.8
62.5°	349.1	332.2	301.7	266.1	283.0
65°	300.0	283.0	255.9	261.0	216.9
67.5°	245.7	237.3	213.5	189.8	183.0
70°	200.0	189.8	181.3	155.9	149.1
72.5°	159.3	149.1	137.3	123.7	118.6
75°	120.3	111.9	105.1	100.0	110.2
77.5°	83.0	79.7	74.6	69.5	67.8
80°	54.2	52.5	50.8	49.1	47.5
82.5°	32.2	32.2	32.2	32.2	32.2
85°	16.9	18.6	20.3	22.0	23.7
87.5°	10.2	10.2	11.9	13.6	15.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)