

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: P563562

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563562
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-LD4-3STD-40-UNV-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9978.0 lumens
Efficiency: N/A
Efficacy: 99.9 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

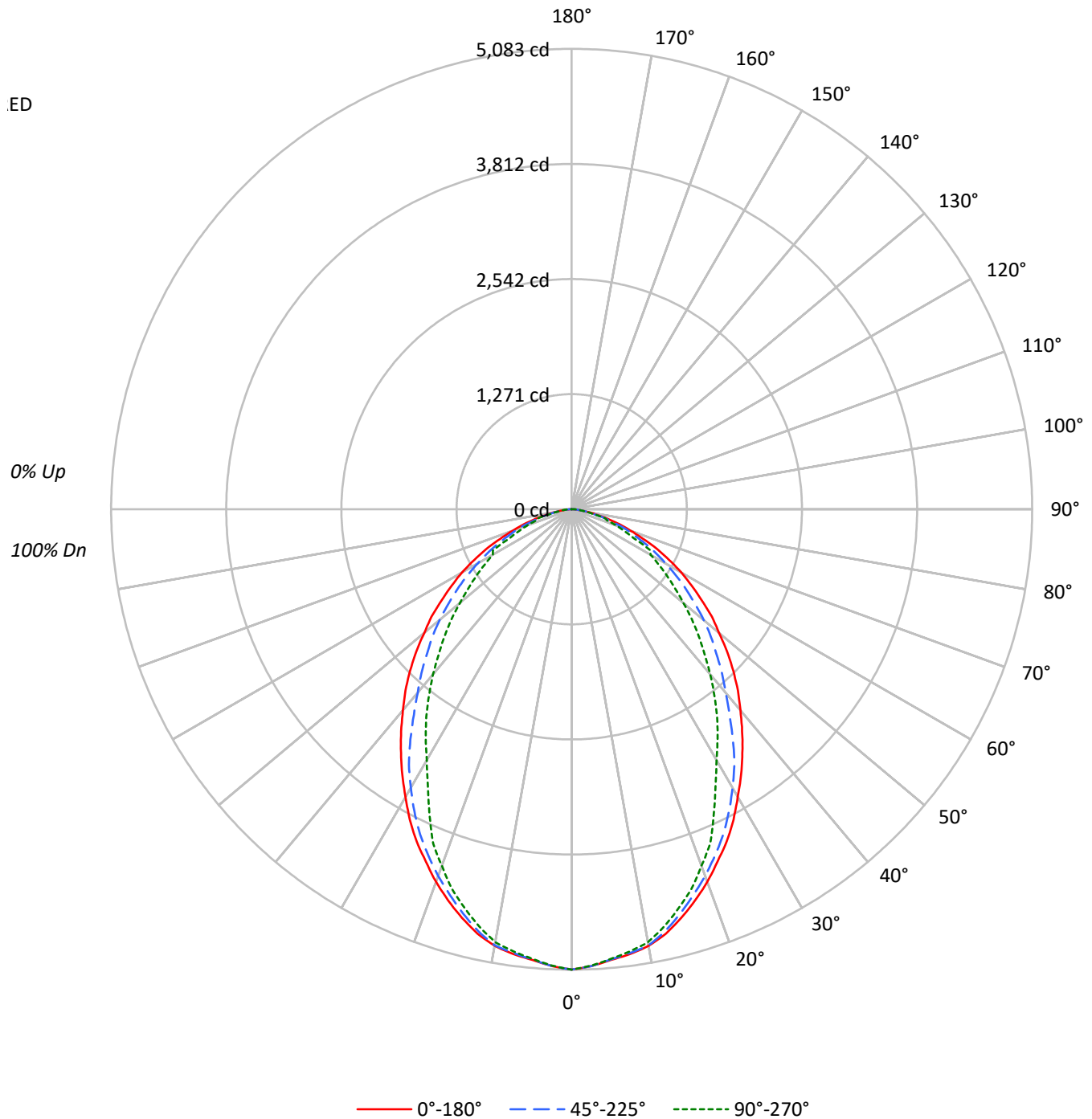
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6839	6839	6839
5°	6746	6738	6730
10°	6687	6679	6631
15°	6507	6441	6351
20°	6268	6167	5999
25°	6010	5880	5513
30°	5697	5514	4966
35°	5395	5096	4594
40°	5088	4644	4180
45°	4797	4293	3779
50°	4440	3985	3370
55°	4107	3611	3019
60°	3763	3226	2704
65°	3311	2825	2394
70°	2728	2473	2034
75°	2169	1894	1985
80°	1457	1366	1275
85°	908	1088	1271

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4797 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	473.1	4.7
10°-20°	1298.5	13.0
20°-30°	1797.6	18.0
30°-40°	1916.8	19.2
40°-50°	1748.7	17.5
50°-60°	1370.0	13.7
60°-70°	892.9	8.9
70°-80°	395.6	4.0
80°-90°	84.9	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°	3569.2	35.8
0°-40°	5486.0	55.0
0°-60°	8604.6	86.2
0°-90°	9978.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9978.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5083	5083	5083	5083	5083	
5°	4994	4989	4989	4983	4983	474
15°	4671	4671	4624	4577	4560	1313
25°	4048	4025	3960	3819	3714	1859
35°	3285	3261	3102	2867	2797	2053
45°	2521	2468	2256	2068	1986	1942
55°	1751	1698	1540	1357	1287	1571
65°	1040	981	887	905	752	1025
75°	417	388	364	347	382	447
85°	59	65	70	76	82	82
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5082.7	5082.7	5082.7	5082.7	5082.7
2.5°	5047.4	5047.4	5047.4	5041.5	5041.5
5°	4994.5	4988.6	4988.6	4982.8	4982.8
7.5°	4953.4	4947.5	4941.6	4935.8	4924.0
10°	4894.6	4894.6	4888.8	4859.4	4853.5
12.5°	4800.6	4794.7	4771.2	4730.1	4718.4
15°	4671.3	4671.3	4624.3	4577.3	4559.7
17.5°	4530.3	4524.4	4465.7	4418.7	4395.2
20°	4377.6	4365.8	4307.0	4230.7	4189.5
22.5°	4207.1	4207.1	4136.6	4036.7	3995.6
25°	4048.5	4025.0	3960.4	3819.3	3713.6
27.5°	3866.3	3831.1	3760.6	3560.8	3437.4
30°	3666.6	3648.9	3549.0	3290.5	3196.5
32.5°	3478.5	3449.2	3343.4	3073.1	2996.7
35°	3284.6	3261.1	3102.5	2867.4	2796.9
37.5°	3090.7	3061.3	2861.6	2673.5	2585.4
40°	2896.8	2861.6	2644.2	2473.8	2379.7
42.5°	2714.7	2667.7	2456.1	2274.0	2168.2
45°	2520.8	2467.9	2256.3	2068.3	1986.1
47.5°	2326.9	2279.9	2085.9	1892.0	1798.0
50°	2121.2	2080.1	1903.8	1709.9	1610.0
52.5°	1950.8	1886.2	1715.8	1521.9	1439.6
55°	1751.0	1698.1	1539.5	1357.3	1286.8
57.5°	1568.9	1516.0	1369.1	1198.7	1139.9
60°	1398.5	1322.1	1198.7	1051.8	1004.8
62.5°	1210.4	1151.7	1045.9	922.5	981.3
65°	1040.0	981.3	887.3	904.9	752.1
67.5°	852.0	822.6	740.4	658.1	634.6
70°	693.4	658.1	628.7	540.6	517.1
72.5°	552.3	517.1	475.9	428.9	411.3
75°	417.2	387.8	364.3	346.7	381.9
77.5°	287.9	276.2	258.5	240.9	235.0
80°	188.0	182.2	176.3	170.4	164.5
82.5°	111.6	111.6	111.6	111.6	111.6
85°	58.8	64.6	70.5	76.4	82.3
87.5°	35.3	35.3	41.1	47.0	52.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)