

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: P563691

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563691
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-35-UNV-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19229.0 lumens
Efficiency: N/A
Efficacy: 111.3 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

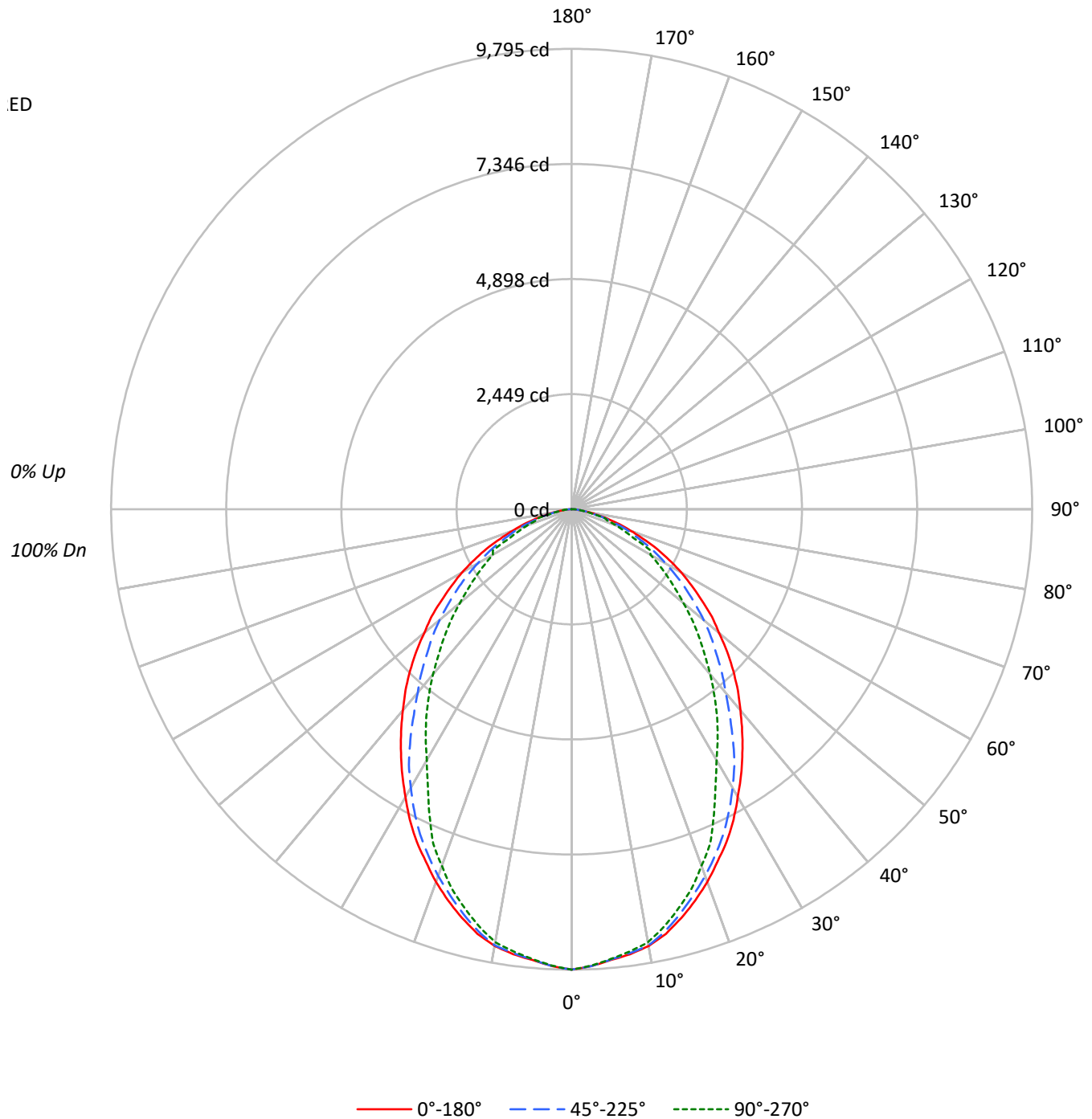
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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			
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°	13179	13179	13179
5°	13000	12985	12969
10°	12887	12872	12779
15°	12540	12414	12240
20°	12079	11885	11560
25°	11583	11331	10625
30°	10978	10626	9571
35°	10397	9821	8853
40°	9805	8950	8055
45°	9244	8274	7283
50°	8557	7680	6495
55°	7916	6959	5817
60°	7252	6216	5211
65°	6381	5444	4614
70°	5257	4766	3920
75°	4180	3650	3826
80°	2808	2632	2457
85°	1748	2098	2447

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9244 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	911.8	4.7
10°-20°	2502.3	13.0
20°-30°	3464.3	18.0
30°-40°	3693.9	19.2
40°-50°	3369.9	17.5
50°-60°	2640.1	13.7
60°-70°	1720.7	8.9
70°-80°	762.3	4.0
80°-90°	163.7	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°	6878.4	35.8
0°-40°	10572.3	55.0
0°-60°	16582.3	86.2
0°-90°	19229.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19229.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9795	9795	9795	9795	9795	
5°	9625	9614	9614	9602	9602	914
15°	9002	9002	8912	8821	8787	2531
25°	7802	7757	7632	7360	7157	3582
35°	6330	6285	5979	5526	5390	3957
45°	4858	4756	4348	3986	3827	3742
55°	3374	3272	2967	2616	2480	3027
65°	2004	1891	1710	1744	1449	1975
75°	804	747	702	668	736	862
85°	113	125	136	147	158	157
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9795.0	9795.0	9795.0	9795.0	9795.0
2.5°	9727.1	9727.1	9727.1	9715.7	9715.7
5°	9625.1	9613.8	9613.8	9602.5	9602.5
7.5°	9545.9	9534.6	9523.2	9511.9	9489.3
10°	9432.6	9432.6	9421.3	9364.7	9353.4
12.5°	9251.5	9240.1	9194.8	9115.6	9092.9
15°	9002.3	9002.3	8911.7	8821.2	8787.2
17.5°	8730.6	8719.2	8606.0	8515.4	8470.1
20°	8436.2	8413.5	8300.3	8153.1	8073.8
22.5°	8107.8	8107.8	7971.9	7779.4	7700.1
25°	7802.0	7756.7	7632.2	7360.4	7156.6
27.5°	7451.0	7383.0	7247.2	6862.2	6624.4
30°	7066.0	7032.0	6839.5	6341.3	6160.1
32.5°	6703.6	6647.0	6443.2	5922.3	5775.1
35°	6329.9	6284.7	5978.9	5526.0	5390.1
37.5°	5956.3	5899.6	5514.6	5152.3	4982.4
40°	5582.6	5514.6	5095.7	4767.3	4586.1
42.5°	5231.5	5141.0	4733.3	4382.3	4178.4
45°	4857.9	4756.0	4348.3	3985.9	3827.4
47.5°	4484.2	4393.6	4019.9	3646.2	3465.1
50°	4087.9	4008.6	3668.9	3295.2	3102.7
52.5°	3759.5	3634.9	3306.5	2932.8	2774.3
55°	3374.5	3272.5	2966.8	2615.8	2479.9
57.5°	3023.4	2921.5	2638.4	2310.0	2196.8
60°	2695.0	2547.8	2310.0	2026.9	1936.4
62.5°	2332.7	2219.4	2015.6	1777.8	1891.1
65°	2004.3	1891.1	1709.9	1743.8	1449.4
67.5°	1641.9	1585.3	1426.8	1268.3	1223.0
70°	1336.2	1268.3	1211.6	1041.8	996.5
72.5°	1064.4	996.5	917.2	826.6	792.7
75°	804.0	747.4	702.1	668.1	736.0
77.5°	554.9	532.2	498.2	464.3	452.9
80°	362.4	351.0	339.7	328.4	317.1
82.5°	215.2	215.2	215.2	215.2	215.2
85°	113.2	124.6	135.9	147.2	158.5
87.5°	67.9	67.9	79.3	90.6	101.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)