

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: P563753

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563753
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-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16361.0 lumens
Efficiency: N/A
Efficacy: 94.7 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

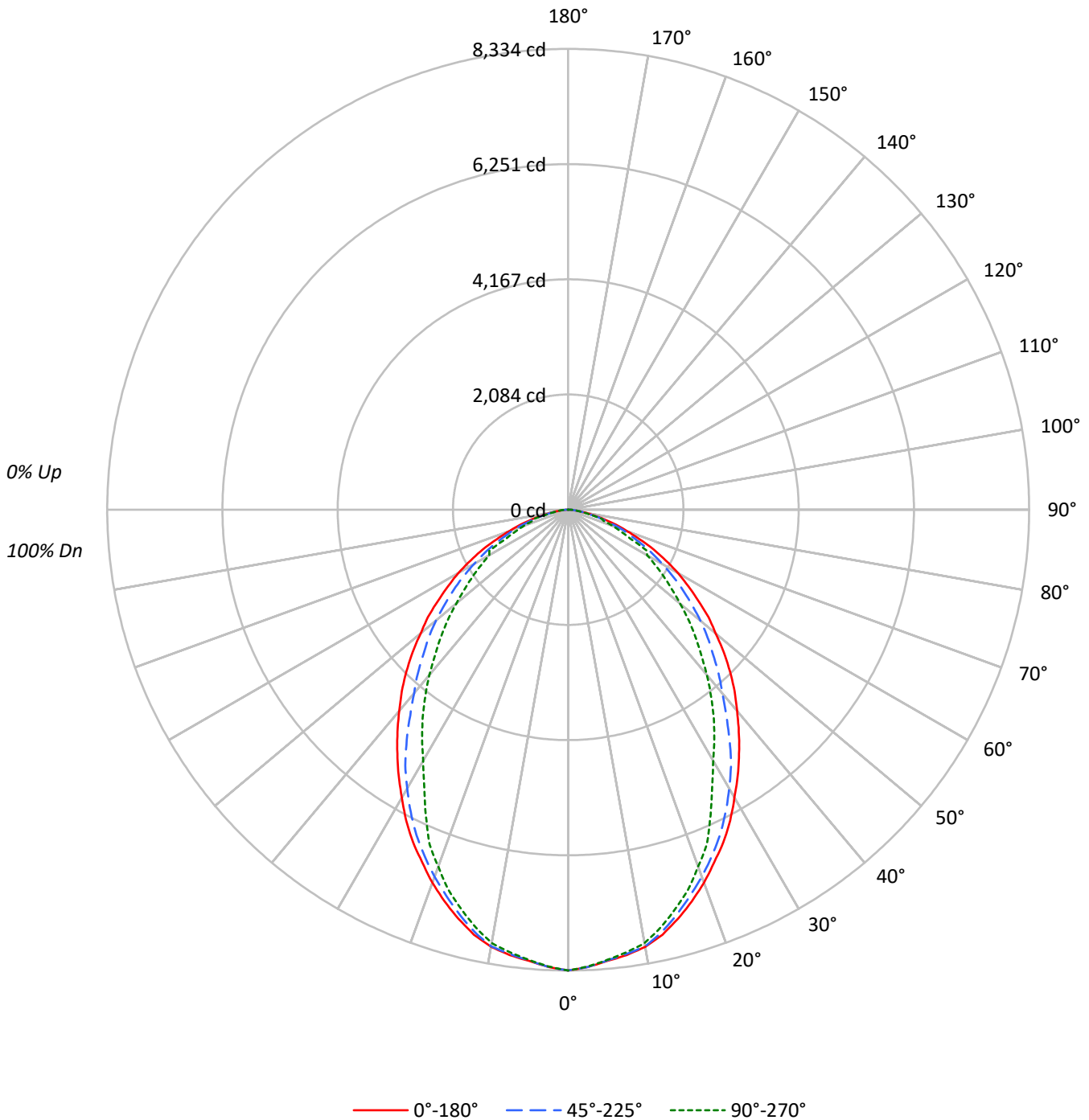
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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°	11213	11213	11213
5°	11061	11048	11035
10°	10965	10952	10873
15°	10669	10562	10415
20°	10278	10112	9836
25°	9855	9641	9040
30°	9341	9041	8143
35°	8846	8356	7533
40°	8343	7615	6854
45°	7865	7040	6197
50°	7281	6534	5526
55°	6735	5921	4950
60°	6171	5289	4433
65°	5429	4632	3926
70°	4473	4056	3336
75°	3556	3106	3256
80°	2389	2239	2091
85°	1487	1785	2083

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7865 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	775.8	4.7
10°-20°	2129.1	13.0
20°-30°	2947.6	18.0
30°-40°	3143.0	19.2
40°-50°	2867.3	17.5
50°-60°	2246.3	13.7
60°-70°	1464.1	8.9
70°-80°	648.6	4.0
80°-90°	139.3	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°	5852.5	35.8
0°-40°	8995.4	55.0
0°-60°	14109.1	86.2
0°-90°	16361.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16361.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8334	8334	8334	8334	8334	
5°	8190	8180	8180	8170	8170	777
15°	7660	7660	7583	7506	7477	2153
25°	6638	6600	6494	6263	6089	3048
35°	5386	5347	5087	4702	4586	3367
45°	4133	4047	3700	3391	3257	3184
55°	2871	2784	2524	2226	2110	2575
65°	1705	1609	1455	1484	1233	1681
75°	684	636	597	568	626	733
85°	96	106	116	125	135	134
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8334.1	8334.1	8334.1	8334.1	8334.1
2.5°	8276.3	8276.3	8276.3	8266.6	8266.6
5°	8189.6	8179.9	8179.9	8170.3	8170.3
7.5°	8122.1	8112.5	8102.8	8093.2	8073.9
10°	8025.8	8025.8	8016.1	7968.0	7958.3
12.5°	7871.6	7862.0	7823.4	7756.0	7736.7
15°	7659.6	7659.6	7582.6	7505.5	7476.6
17.5°	7428.4	7418.8	7322.4	7245.3	7206.8
20°	7177.9	7158.6	7062.3	6937.0	6869.6
22.5°	6898.5	6898.5	6782.9	6619.1	6551.6
25°	6638.4	6599.8	6493.8	6262.6	6089.2
27.5°	6339.7	6281.9	6166.3	5838.7	5636.3
30°	6012.1	5983.2	5819.4	5395.5	5241.3
32.5°	5703.8	5655.6	5482.2	5039.0	4913.7
35°	5385.8	5347.3	5087.2	4701.8	4586.1
37.5°	5067.9	5019.7	4692.1	4383.8	4239.3
40°	4749.9	4692.1	4335.6	4056.2	3902.1
42.5°	4451.3	4374.2	4027.3	3728.7	3555.2
45°	4133.3	4046.6	3699.8	3391.4	3256.6
47.5°	3815.4	3738.3	3420.3	3102.4	2948.2
50°	3478.2	3410.7	3121.7	2803.7	2639.9
52.5°	3198.7	3092.8	2813.4	2495.4	2360.5
55°	2871.2	2784.4	2524.3	2225.6	2110.0
57.5°	2572.5	2485.8	2244.9	1965.5	1869.1
60°	2293.1	2167.8	1965.5	1724.6	1647.5
62.5°	1984.8	1888.4	1715.0	1512.7	1609.0
65°	1705.4	1609.0	1454.9	1483.8	1233.3
67.5°	1397.0	1348.9	1214.0	1079.1	1040.6
70°	1136.9	1079.1	1030.9	886.4	847.9
72.5°	905.7	847.9	780.4	703.3	674.4
75°	684.1	635.9	597.4	568.5	626.3
77.5°	472.1	452.8	423.9	395.0	385.4
80°	308.3	298.7	289.0	279.4	269.8
82.5°	183.1	183.1	183.1	183.1	183.1
85°	96.3	106.0	115.6	125.3	134.9
87.5°	57.8	57.8	67.4	77.1	86.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)