

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: P563686

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563686
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-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15052.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

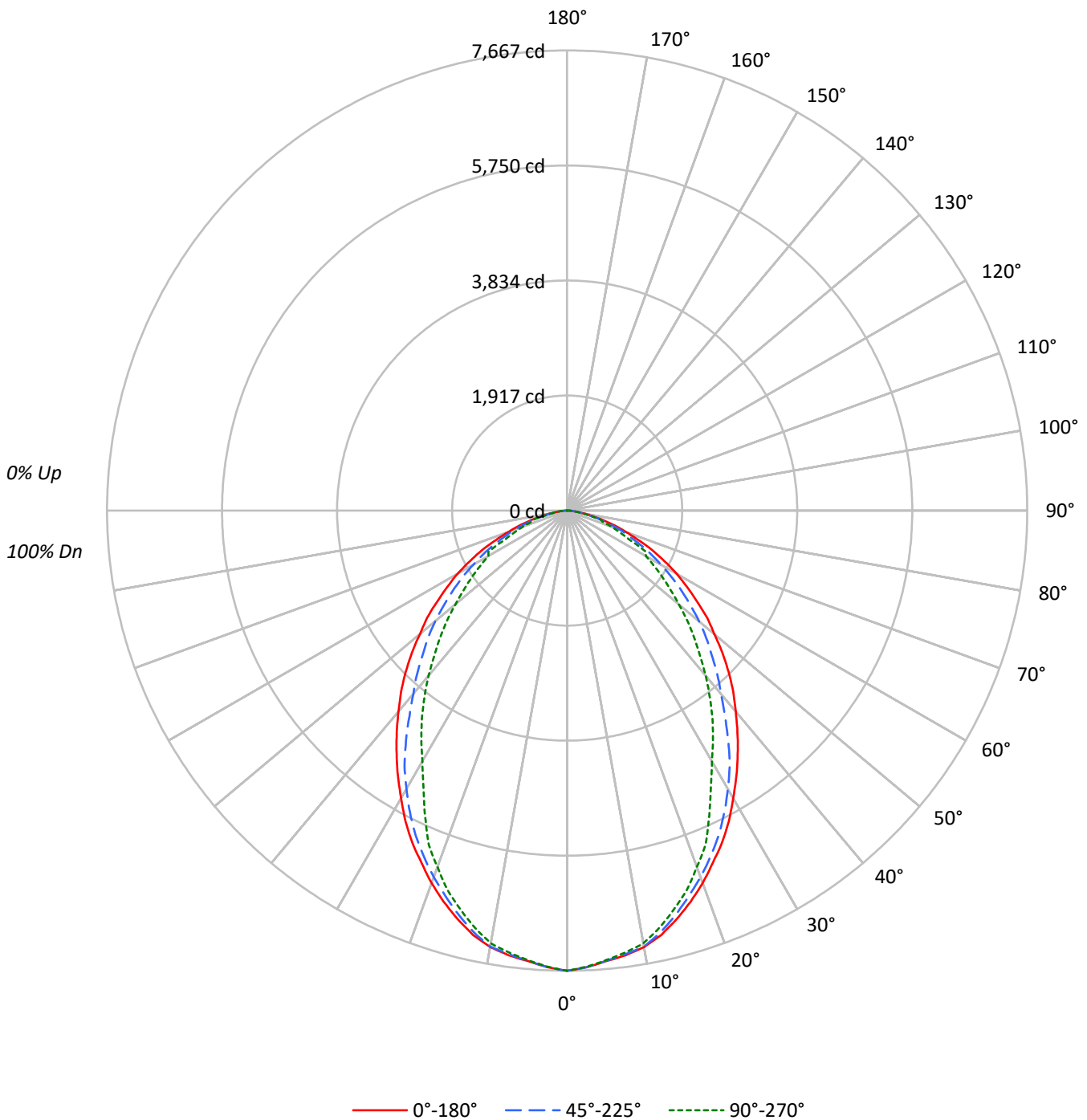
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	10316	10316	10316
5°	10176	10164	10152
10°	10088	10076	10003
15°	9816	9717	9581
20°	9455	9303	9049
25°	9067	8869	8317
30°	8593	8318	7492
35°	8139	7687	6930
40°	7675	7006	6305
45°	7236	6477	5701
50°	6698	6011	5084
55°	6196	5448	4554
60°	5677	4866	4079
65°	4995	4261	3612
70°	4115	3731	3068
75°	3271	2857	2995
80°	2197	2060	1923
85°	1368	1643	1916

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7236 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	713.7	4.7
10°-20°	1958.7	13.0
20°-30°	2711.8	18.0
30°-40°	2891.5	19.2
40°-50°	2637.9	17.5
50°-60°	2066.6	13.7
60°-70°	1346.9	8.9
70°-80°	596.7	4.0
80°-90°	128.1	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°	5384.2	35.8
0°-40°	8275.7	55.0
0°-60°	12980.2	86.2
0°-90°	15052.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15052.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7667	7667	7667	7667	7667	
5°	7534	7526	7526	7517	7517	715
15°	7047	7047	6976	6905	6878	1981
25°	6107	6072	5974	5762	5602	2804
35°	4955	4920	4680	4326	4219	3098
45°	3803	3723	3404	3120	2996	2929
55°	2641	2562	2322	2048	1941	2369
65°	1569	1480	1338	1365	1135	1546
75°	629	585	550	523	576	674
85°	89	98	106	115	124	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7667.3	7667.3	7667.3	7667.3	7667.3
2.5°	7614.1	7614.1	7614.1	7605.2	7605.2
5°	7534.3	7525.5	7525.5	7516.6	7516.6
7.5°	7472.3	7463.4	7454.6	7445.7	7428.0
10°	7383.6	7383.6	7374.8	7330.5	7321.6
12.5°	7241.8	7233.0	7197.5	7135.5	7117.7
15°	7046.8	7046.8	6975.9	6905.0	6878.4
17.5°	6834.1	6825.2	6736.6	6665.7	6630.2
20°	6603.6	6585.9	6497.3	6382.0	6320.0
22.5°	6346.6	6346.6	6240.2	6089.5	6027.5
25°	6107.2	6071.8	5974.3	5761.5	5602.0
27.5°	5832.5	5779.3	5672.9	5371.5	5185.4
30°	5531.1	5504.5	5353.8	4963.8	4822.0
32.5°	5247.4	5203.1	5043.6	4635.8	4520.6
35°	4954.9	4919.5	4680.1	4325.6	4219.2
37.5°	4662.4	4618.1	4316.7	4033.1	3900.1
40°	4369.9	4316.7	3988.8	3731.7	3589.9
42.5°	4095.1	4024.2	3705.1	3430.3	3270.8
45°	3802.6	3722.8	3403.7	3120.1	2996.0
47.5°	3510.1	3439.2	3146.7	2854.2	2712.4
50°	3199.9	3137.8	2871.9	2579.4	2428.7
52.5°	2942.8	2845.3	2588.3	2295.8	2171.7
55°	2641.4	2561.7	2322.3	2047.6	1941.2
57.5°	2366.7	2286.9	2065.3	1808.2	1719.6
60°	2109.6	1994.4	1808.2	1586.6	1515.7
62.5°	1826.0	1737.3	1577.8	1391.6	1480.3
65°	1568.9	1480.3	1338.5	1365.0	1134.6
67.5°	1285.3	1240.9	1116.9	992.8	957.3
70°	1045.9	992.8	948.4	815.5	780.0
72.5°	833.2	780.0	718.0	647.1	620.5
75°	629.3	585.0	549.6	523.0	576.2
77.5°	434.3	416.6	390.0	363.4	354.6
80°	283.6	274.8	265.9	257.1	248.2
82.5°	168.4	168.4	168.4	168.4	168.4
85°	88.6	97.5	106.4	115.2	124.1
87.5°	53.2	53.2	62.0	70.9	79.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)