

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: P563745

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563745
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-93-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19376.0 lumens
Efficiency: N/A
Efficacy: 112.1 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

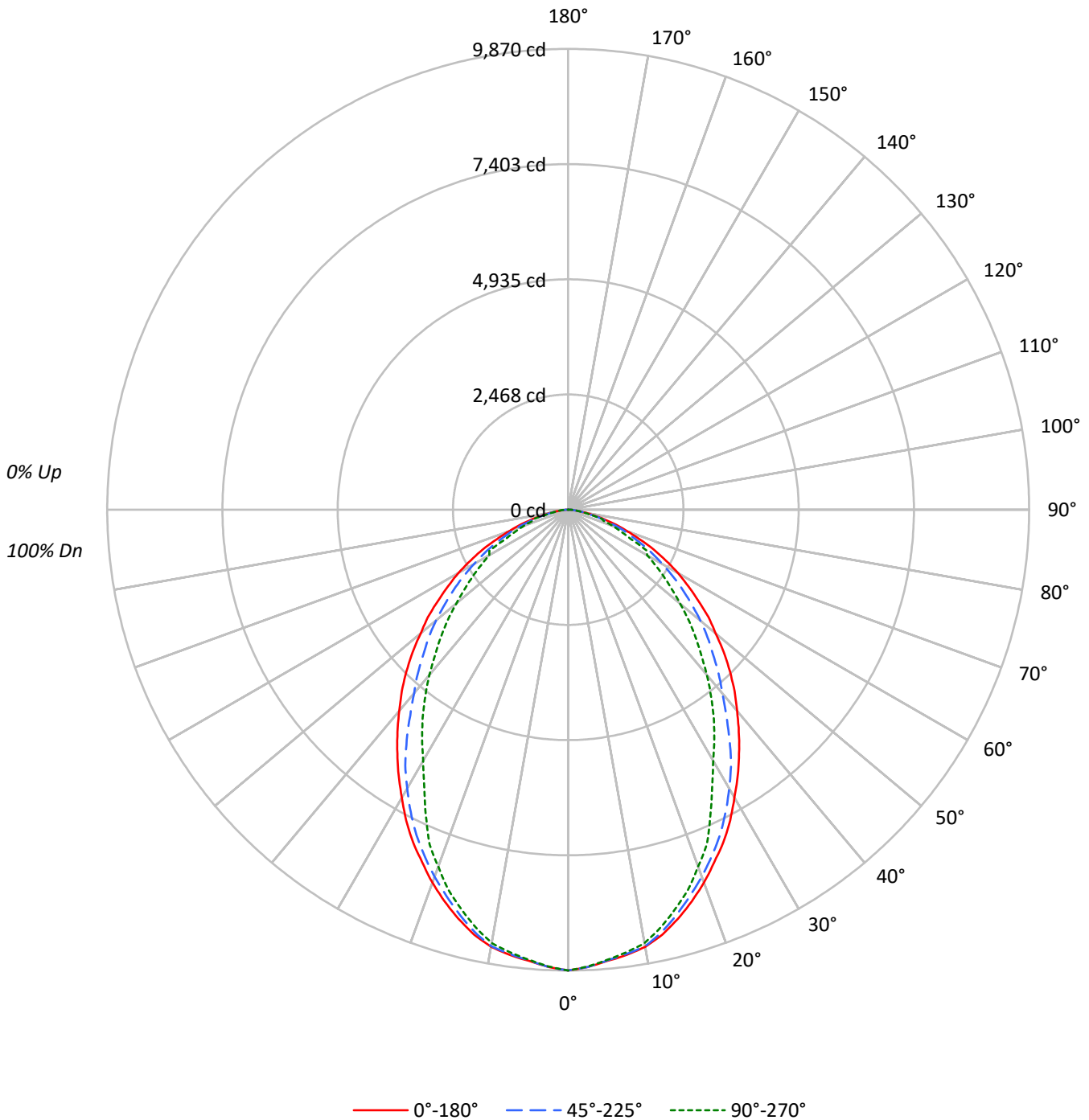
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	13280	13280	13280
5°	13099	13084	13069
10°	12986	12970	12877
15°	12636	12509	12334
20°	12171	11975	11649
25°	11671	11417	10706
30°	11062	10707	9644
35°	10477	9896	8921
40°	9880	9018	8117
45°	9314	8337	7339
50°	8622	7738	6544
55°	7976	7013	5862
60°	7308	6264	5251
65°	6430	5485	4650
70°	5297	4803	3950
75°	4211	3677	3856
80°	2829	2652	2476
85°	1761	2113	2465

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9314 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	918.8	4.7
10°-20°	2521.4	13.0
20°-30°	3490.8	18.0
30°-40°	3722.2	19.2
40°-50°	3395.7	17.5
50°-60°	2660.3	13.7
60°-70°	1733.8	8.9
70°-80°	768.2	4.0
80°-90°	164.9	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°	6931.0	35.8
0°-40°	10653.1	55.0
0°-60°	16709.1	86.2
0°-90°	19376.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19376.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9870	9870	9870	9870	9870	
5°	9699	9687	9687	9676	9676	921
15°	9071	9071	8980	8889	8854	2550
25°	7862	7816	7690	7417	7211	3609
35°	6378	6333	6025	5568	5431	3988
45°	4895	4792	4382	4016	3857	3771
55°	3400	3298	2990	2636	2499	3050
65°	2020	1906	1723	1757	1460	1990
75°	810	753	707	673	742	868
85°	114	126	137	148	160	158
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9869.9	9869.9	9869.9	9869.9	9869.9
2.5°	9801.4	9801.4	9801.4	9790.0	9790.0
5°	9698.7	9687.3	9687.3	9675.9	9675.9
7.5°	9618.8	9607.4	9596.0	9584.6	9561.8
10°	9504.7	9504.7	9493.3	9436.3	9424.9
12.5°	9322.2	9310.8	9265.1	9185.3	9162.4
15°	9071.2	9071.2	8979.9	8888.6	8854.4
17.5°	8797.3	8785.9	8671.8	8580.5	8534.9
20°	8500.6	8477.8	8363.7	8215.4	8135.5
22.5°	8169.7	8169.7	8032.8	7838.8	7759.0
25°	7861.7	7816.0	7690.5	7416.7	7211.3
27.5°	7508.0	7439.5	7302.6	6914.6	6675.0
30°	7120.0	7085.8	6891.8	6389.7	6207.2
32.5°	6754.9	6697.8	6492.4	5967.6	5819.2
35°	6378.3	6332.7	6024.6	5568.2	5431.3
37.5°	6001.8	5944.7	5556.8	5191.7	5020.5
40°	5625.3	5556.8	5134.6	4803.7	4621.2
42.5°	5271.5	5180.3	4769.5	4415.8	4210.4
45°	4895.0	4792.3	4381.5	4016.4	3856.7
47.5°	4518.5	4427.2	4050.6	3674.1	3491.5
50°	4119.1	4039.2	3696.9	3320.4	3126.4
52.5°	3788.2	3662.7	3331.8	2955.3	2795.5
55°	3400.3	3297.6	2989.5	2635.8	2498.8
57.5°	3046.5	2943.8	2658.6	2327.7	2213.6
60°	2715.6	2567.3	2327.7	2042.4	1951.2
62.5°	2350.5	2236.4	2031.0	1791.4	1905.5
65°	2019.6	1905.5	1722.9	1757.2	1460.5
67.5°	1654.5	1597.4	1437.7	1277.9	1232.3
70°	1346.4	1277.9	1220.9	1049.7	1004.1
72.5°	1072.6	1004.1	924.2	832.9	798.7
75°	810.1	753.1	707.4	673.2	741.7
77.5°	559.1	536.3	502.1	467.8	456.4
80°	365.1	353.7	342.3	330.9	319.5
82.5°	216.8	216.8	216.8	216.8	216.8
85°	114.1	125.5	136.9	148.3	159.7
87.5°	68.5	68.5	79.9	91.3	102.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)