

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: P563754

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563754
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-93-94-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: 16318.0 lumens
Efficiency: N/A
Efficacy: 94.4 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

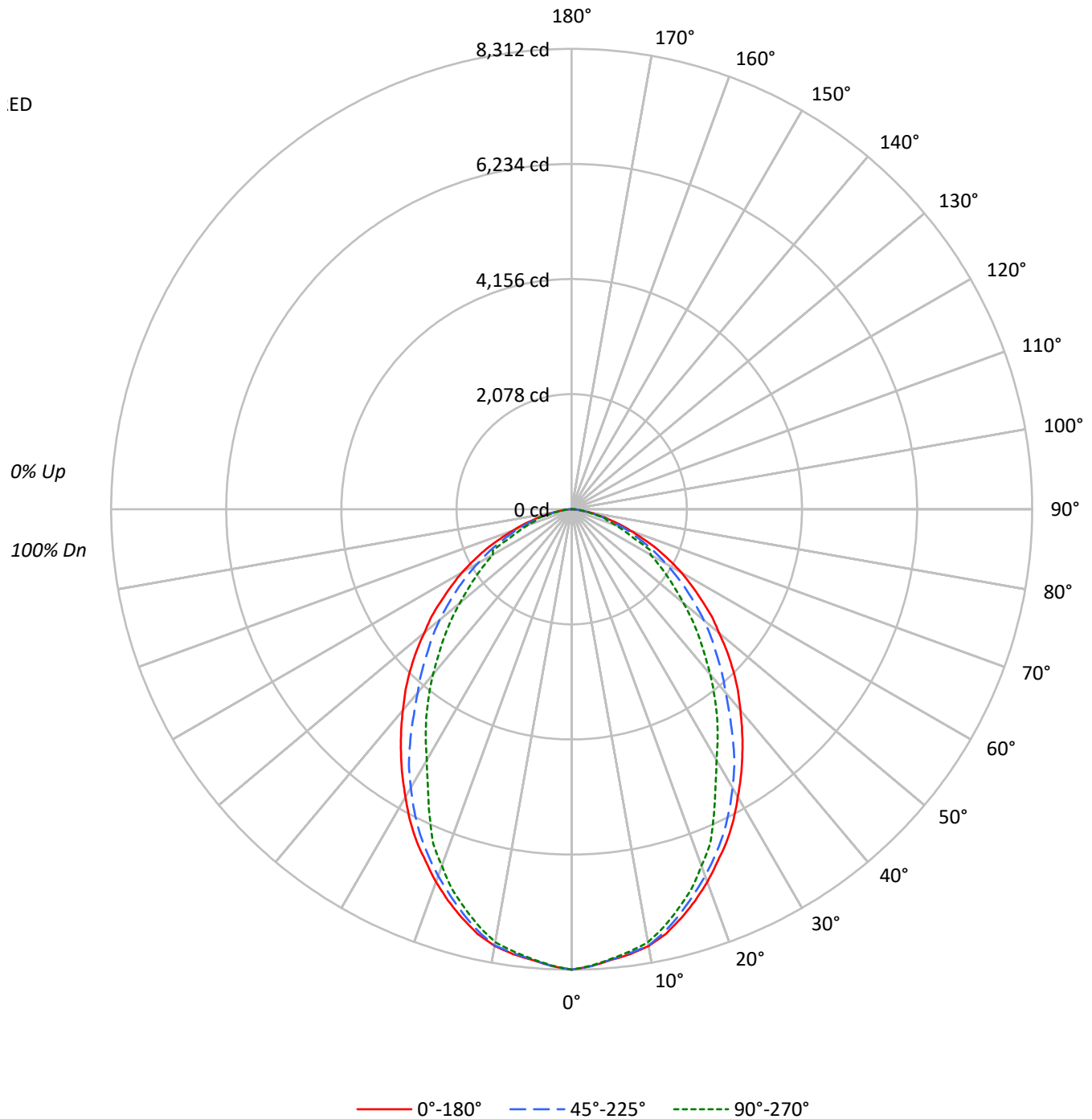
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	11184	11184	11184
5°	11032	11019	11006
10°	10936	10923	10844
15°	10641	10534	10387
20°	10251	10085	9810
25°	9829	9615	9016
30°	9316	9017	8122
35°	8823	8334	7513
40°	8321	7595	6836
45°	7844	7021	6180
50°	7261	6517	5511
55°	6717	5906	4937
60°	6154	5275	4422
65°	5415	4620	3916
70°	4461	4045	3327
75°	3547	3097	3247
80°	2383	2234	2085
85°	1484	1780	2076

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7844 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	773.8	4.7
10°-20°	2123.5	13.0
20°-30°	2939.8	18.0
30°-40°	3134.7	19.2
40°-50°	2859.8	17.5
50°-60°	2240.4	13.7
60°-70°	1460.2	8.9
70°-80°	646.9	4.0
80°-90°	138.9	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°	5837.1	35.8
0°-40°	8971.8	55.0
0°-60°	14072.0	86.2
0°-90°	16318.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16318.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8312	8312	8312	8312	8312	
5°	8168	8158	8158	8149	8149	775
15°	7640	7640	7563	7486	7457	2148
25°	6621	6582	6477	6246	6073	3040
35°	5372	5333	5074	4689	4574	3358
45°	4122	4036	3690	3382	3248	3176
55°	2864	2777	2518	2220	2104	2568
65°	1701	1605	1451	1480	1230	1676
75°	682	634	596	567	625	731
85°	96	106	115	125	134	133
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8312.2	8312.2	8312.2	8312.2	8312.2
2.5°	8254.5	8254.5	8254.5	8244.9	8244.9
5°	8168.0	8158.4	8158.4	8148.8	8148.8
7.5°	8100.8	8091.2	8081.5	8071.9	8052.7
10°	8004.7	8004.7	7995.1	7947.0	7937.4
12.5°	7850.9	7841.3	7802.9	7735.6	7716.4
15°	7639.5	7639.5	7562.6	7485.8	7456.9
17.5°	7408.9	7399.3	7303.2	7226.3	7187.9
20°	7159.0	7139.8	7043.7	6918.8	6851.5
22.5°	6880.4	6880.4	6765.1	6601.7	6534.4
25°	6620.9	6582.5	6476.8	6246.1	6073.2
27.5°	6323.0	6265.4	6150.0	5823.3	5621.5
30°	5996.3	5967.5	5804.1	5381.3	5227.5
32.5°	5688.8	5640.7	5467.8	5025.7	4900.8
35°	5371.7	5333.2	5073.8	4689.4	4574.1
37.5°	5054.6	5006.5	4679.8	4372.3	4228.2
40°	4737.5	4679.8	4324.3	4045.6	3891.8
42.5°	4439.6	4362.7	4016.7	3718.9	3545.9
45°	4122.5	4036.0	3690.0	3382.5	3248.0
47.5°	3805.3	3728.5	3411.4	3094.2	2940.5
50°	3469.0	3401.7	3113.5	2796.3	2633.0
52.5°	3190.3	3084.6	2806.0	2488.8	2354.3
55°	2863.6	2777.1	2517.7	2219.8	2104.5
57.5°	2565.7	2479.2	2239.0	1960.3	1864.2
60°	2287.0	2162.1	1960.3	1720.1	1643.2
62.5°	1979.5	1883.5	1710.5	1508.7	1604.8
65°	1700.9	1604.8	1451.0	1479.9	1230.0
67.5°	1393.4	1345.3	1210.8	1076.3	1037.8
70°	1133.9	1076.3	1028.2	884.1	845.6
72.5°	903.3	845.6	778.4	701.5	672.7
75°	682.3	634.2	595.8	567.0	624.6
77.5°	470.9	451.6	422.8	394.0	384.4
80°	307.5	297.9	288.3	278.7	269.1
82.5°	182.6	182.6	182.6	182.6	182.6
85°	96.1	105.7	115.3	124.9	134.5
87.5°	57.7	57.7	67.3	76.9	86.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)