

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: P563748

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563748
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-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15777.0 lumens
Efficiency: N/A
Efficacy: 91.3 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

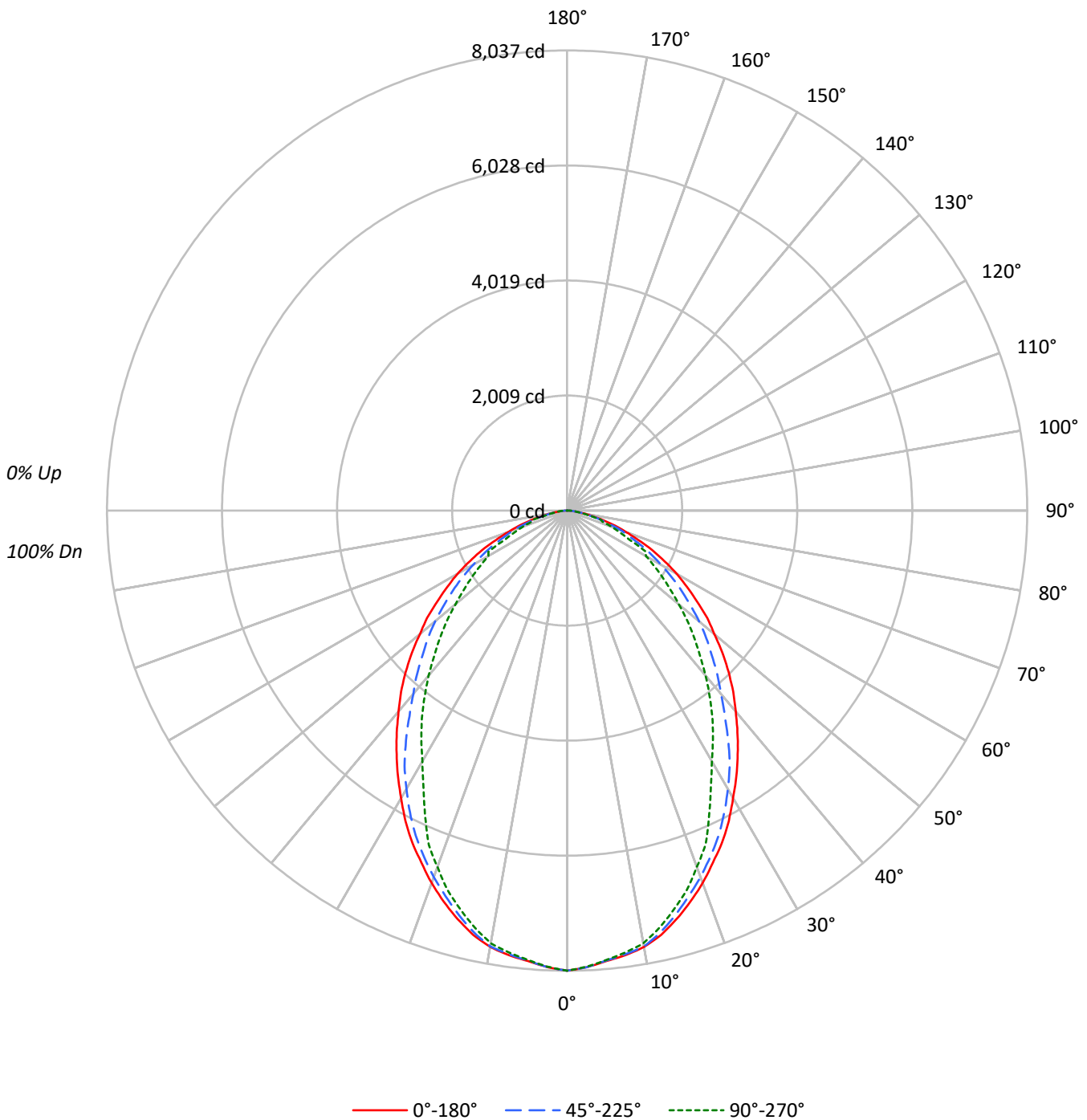
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	10813	10813	10813
5°	10666	10654	10641
10°	10574	10561	10485
15°	10289	10185	10043
20°	9911	9751	9485
25°	9503	9296	8717
30°	9007	8719	7852
35°	8531	8058	7264
40°	8045	7343	6609
45°	7584	6789	5975
50°	7021	6301	5329
55°	6495	5710	4773
60°	5950	5100	4275
65°	5236	4466	3786
70°	4313	3911	3216
75°	3429	2994	3139
80°	2304	2159	2015
85°	1434	1721	2008

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7584 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	748.1	4.7
10°-20°	2053.1	13.0
20°-30°	2842.4	18.0
30°-40°	3030.8	19.2
40°-50°	2765.0	17.5
50°-60°	2166.1	13.7
60°-70°	1411.8	8.9
70°-80°	625.5	4.0
80°-90°	134.3	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°	5643.6	35.8
0°-40°	8674.3	55.0
0°-60°	13605.5	86.2
0°-90°	15777.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15777.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8037	8037	8037	8037	8037	
5°	7897	7888	7888	7879	7879	750
15°	7386	7386	7312	7238	7210	2076
25°	6401	6364	6262	6039	5872	2939
35°	5194	5156	4906	4534	4422	3247
45°	3986	3902	3568	3270	3140	3070
55°	2769	2685	2434	2146	2035	2483
65°	1644	1552	1403	1431	1189	1621
75°	660	613	576	548	604	707
85°	93	102	112	121	130	129
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8036.6	8036.6	8036.6	8036.6	8036.6
2.5°	7980.8	7980.8	7980.8	7971.6	7971.6
5°	7897.2	7887.9	7887.9	7878.6	7878.6
7.5°	7832.2	7822.9	7813.6	7804.3	7785.7
10°	7739.3	7739.3	7730.0	7683.5	7674.2
12.5°	7590.6	7581.3	7544.2	7479.1	7460.6
15°	7386.2	7386.2	7311.9	7237.6	7209.7
17.5°	7163.3	7154.0	7061.1	6986.7	6949.6
20°	6921.7	6903.1	6810.2	6689.4	6624.4
22.5°	6652.3	6652.3	6540.8	6382.8	6317.8
25°	6401.4	6364.2	6262.0	6039.1	5871.8
27.5°	6113.4	6057.6	5946.1	5630.3	5435.2
30°	5797.5	5769.6	5611.7	5202.9	5054.2
32.5°	5500.2	5453.7	5286.5	4859.1	4738.3
35°	5193.6	5156.4	4905.6	4533.9	4422.4
37.5°	4887.0	4840.5	4524.6	4227.3	4088.0
40°	4580.4	4524.6	4180.9	3911.5	3762.8
42.5°	4292.4	4218.0	3883.6	3595.6	3428.3
45°	3985.8	3902.2	3567.7	3270.4	3140.3
47.5°	3679.2	3604.9	3298.3	2991.7	2843.0
50°	3354.0	3289.0	3010.2	2703.6	2545.7
52.5°	3084.6	2982.4	2712.9	2406.3	2276.3
55°	2768.7	2685.1	2434.2	2146.2	2034.7
57.5°	2480.7	2397.0	2164.8	1895.3	1802.4
60°	2211.2	2090.4	1895.3	1663.1	1588.7
62.5°	1913.9	1821.0	1653.8	1458.7	1551.6
65°	1644.5	1551.6	1402.9	1430.8	1189.2
67.5°	1347.2	1300.7	1170.6	1040.6	1003.4
70°	1096.3	1040.6	994.1	854.8	817.6
72.5°	873.3	817.6	752.6	678.2	650.4
75°	659.7	613.2	576.0	548.2	603.9
77.5°	455.3	436.7	408.8	380.9	371.6
80°	297.3	288.0	278.7	269.4	260.1
82.5°	176.5	176.5	176.5	176.5	176.5
85°	92.9	102.2	111.5	120.8	130.1
87.5°	55.7	55.7	65.0	74.3	83.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)