

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: P563678

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-82-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563678
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-82-97-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14545.0 lumens
Efficiency: N/A
Efficacy: 84.2 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

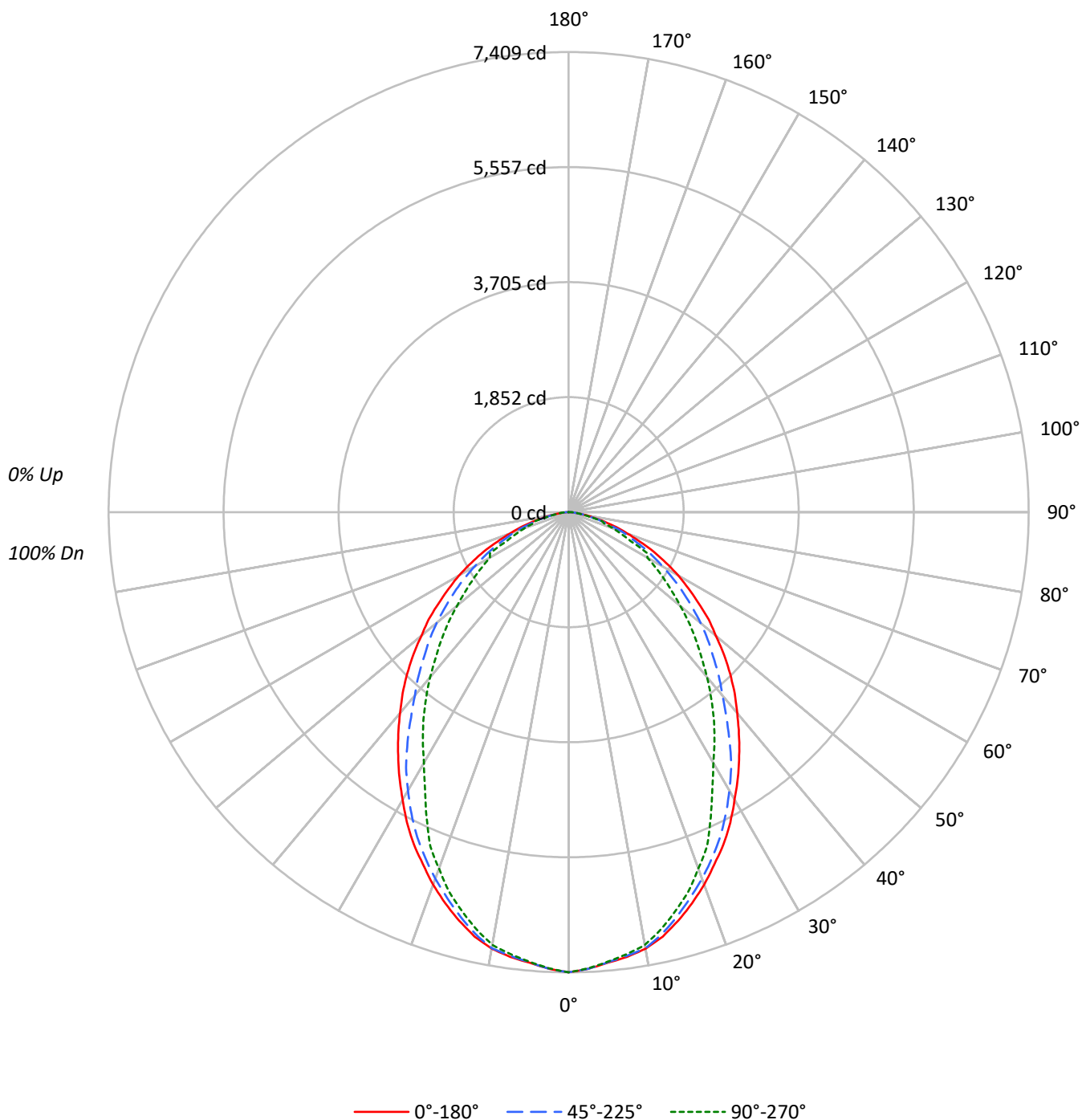
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					0		
RW	70	50	30	10		70	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°	9969	9969	9969
5°	9833	9822	9810
10°	9748	9736	9666
15°	9485	9390	9259
20°	9137	8990	8744
25°	8761	8570	8036
30°	8304	8038	7239
35°	7864	7428	6697
40°	7417	6770	6093
45°	6992	6259	5509
50°	6472	5809	4913
55°	5988	5264	4400
60°	5486	4702	3941
65°	4827	4118	3491
70°	3976	3605	2965
75°	3161	2761	2894
80°	2124	1991	1858
85°	1323	1587	1851

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6992 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	689.7	4.7
10°-20°	1892.8	13.0
20°-30°	2620.4	18.0
30°-40°	2794.1	19.2
40°-50°	2549.1	17.5
50°-60°	1997.0	13.7
60°-70°	1301.5	8.9
70°-80°	576.6	4.0
80°-90°	123.8	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°	5202.9	35.8
0°-40°	7997.0	55.0
0°-60°	12543.0	86.2
0°-90°	14545.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14545.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7409	7409	7409	7409	7409	
5°	7280	7272	7272	7263	7263	691
15°	6810	6810	6741	6672	6647	1914
25°	5902	5867	5773	5568	5413	2709
35°	4788	4754	4522	4180	4077	2993
45°	3674	3597	3289	3015	2895	2830
55°	2552	2475	2244	1979	1876	2289
65°	1516	1430	1293	1319	1096	1494
75°	608	565	531	505	557	652
85°	86	94	103	111	120	119
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7409.0	7409.0	7409.0	7409.0	7409.0
2.5°	7357.6	7357.6	7357.6	7349.1	7349.1
5°	7280.5	7272.0	7272.0	7263.4	7263.4
7.5°	7220.6	7212.0	7203.5	7194.9	7177.8
10°	7134.9	7134.9	7126.4	7083.5	7075.0
12.5°	6997.9	6989.3	6955.1	6895.1	6878.0
15°	6809.5	6809.5	6740.9	6672.4	6646.7
17.5°	6603.9	6595.3	6509.7	6441.1	6406.9
20°	6381.2	6364.1	6278.4	6167.1	6107.1
22.5°	6132.8	6132.8	6030.0	5884.4	5824.4
25°	5901.5	5867.3	5773.0	5567.5	5413.3
27.5°	5636.0	5584.6	5481.8	5190.6	5010.7
30°	5344.8	5319.1	5173.5	4796.6	4659.6
32.5°	5070.7	5027.9	4873.7	4479.7	4368.3
35°	4788.0	4753.8	4522.5	4179.9	4077.1
37.5°	4505.4	4462.5	4171.3	3897.2	3768.8
40°	4222.7	4171.3	3854.4	3606.0	3469.0
42.5°	3957.2	3888.7	3580.3	3314.8	3160.6
45°	3674.5	3597.4	3289.1	3015.0	2895.1
47.5°	3391.9	3323.4	3040.7	2758.0	2621.0
50°	3092.1	3032.1	2775.2	2492.5	2346.9
52.5°	2843.7	2749.5	2501.1	2218.4	2098.5
55°	2552.5	2475.4	2244.1	1978.6	1875.8
57.5°	2286.9	2209.9	1995.7	1747.3	1661.7
60°	2038.6	1927.2	1747.3	1533.2	1464.7
62.5°	1764.5	1678.8	1524.6	1344.8	1430.4
65°	1516.1	1430.4	1293.4	1319.1	1096.4
67.5°	1242.0	1199.1	1079.2	959.3	925.1
70°	1010.7	959.3	916.5	788.0	753.8
72.5°	805.1	753.8	693.8	625.3	599.6
75°	608.1	565.3	531.1	505.4	556.7
77.5°	419.7	402.6	376.9	351.2	342.6
80°	274.1	265.5	257.0	248.4	239.8
82.5°	162.7	162.7	162.7	162.7	162.7
85°	85.7	94.2	102.8	111.3	119.9
87.5°	51.4	51.4	60.0	68.5	77.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)