

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: P564052

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564052
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-LD4-4STD-35-UNV-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11771.0 lumens
Efficiency: N/A
Efficacy: 88.4 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

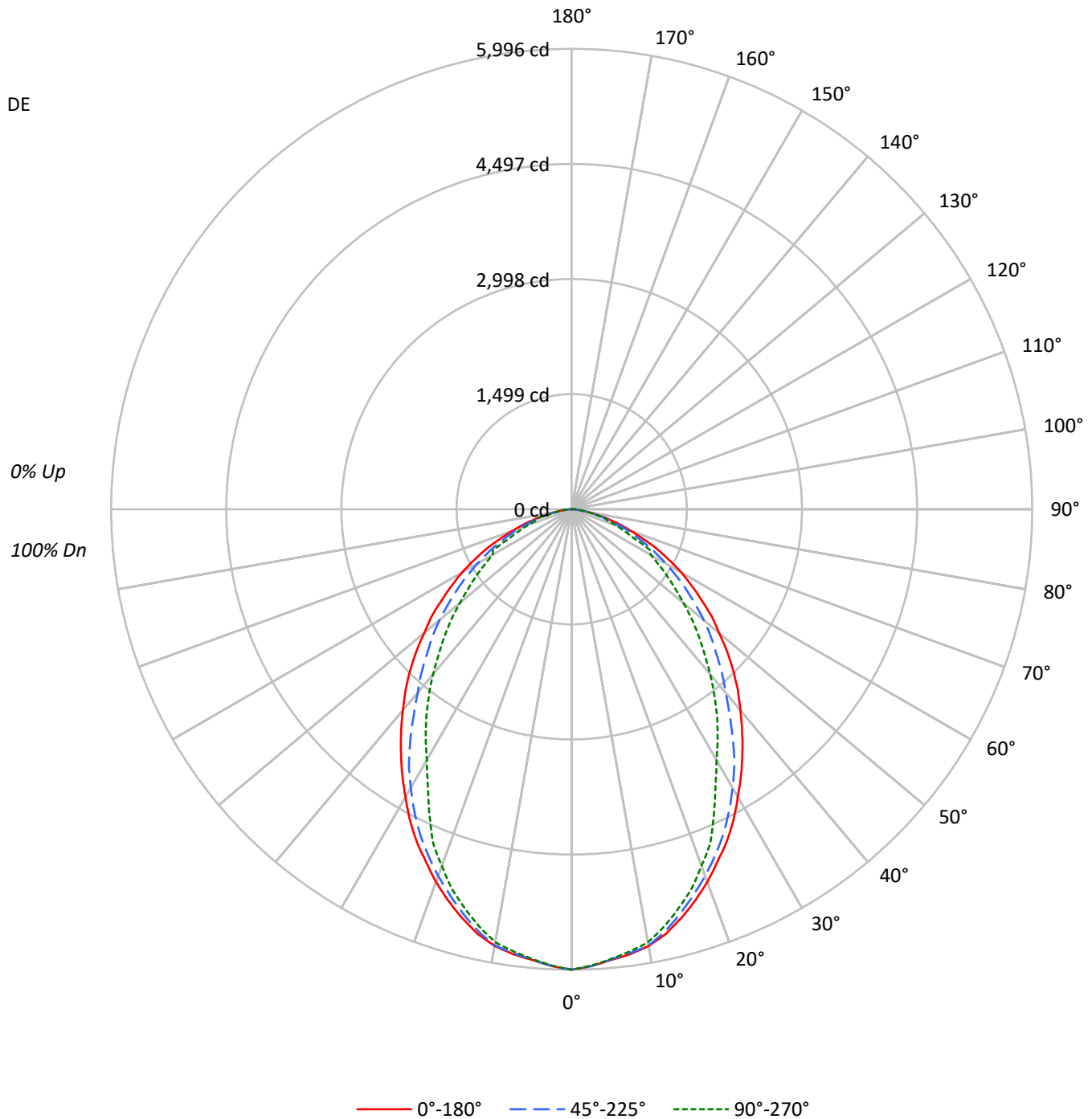
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8068	8068	8068
5°	7958	7949	7939
10°	7889	7879	7823
15°	7676	7599	7493
20°	7394	7275	7077
25°	7090	6936	6504
30°	6720	6505	5859
35°	6365	6012	5420
40°	6002	5479	4931
45°	5658	5065	4458
50°	5238	4701	3976
55°	4846	4260	3561
60°	4440	3805	3190
65°	3906	3332	2825
70°	3218	2918	2400
75°	2559	2234	2342
80°	1719	1612	1504
85°	1070	1284	1497

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5658 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	558.1	4.7
10°-20°	1531.8	13.0
20°-30°	2120.7	18.0
30°-40°	2261.2	19.2
40°-50°	2062.9	17.5
50°-60°	1616.1	13.7
60°-70°	1053.3	8.9
70°-80°	466.7	4.0
80°-90°	100.2	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°	4210.6	35.8
0°-40°	6471.8	55.0
0°-60°	10150.9	86.2
0°-90°	11771.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11771.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5996	5996	5996	5996	5996	
5°	5892	5885	5885	5878	5878	559
15°	5511	5511	5455	5400	5379	1549
25°	4776	4748	4672	4506	4381	2193
35°	3875	3847	3660	3383	3300	2422
45°	2974	2911	2662	2440	2343	2291
55°	2066	2003	1816	1601	1518	1853
65°	1227	1158	1047	1068	887	1209
75°	492	458	430	409	451	528
85°	69	76	83	90	97	96
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5996.0	5996.0	5996.0	5996.0	5996.0
2.5°	5954.4	5954.4	5954.4	5947.5	5947.5
5°	5892.0	5885.1	5885.1	5878.1	5878.1
7.5°	5843.5	5836.6	5829.6	5822.7	5808.8
10°	5774.2	5774.2	5767.2	5732.6	5725.7
12.5°	5663.3	5656.3	5628.6	5580.1	5566.2
15°	5510.8	5510.8	5455.3	5399.9	5379.1
17.5°	5344.4	5337.5	5268.2	5212.7	5185.0
20°	5164.2	5150.3	5081.0	4990.9	4942.4
22.5°	4963.2	4963.2	4880.0	4762.1	4713.6
25°	4776.0	4748.3	4672.0	4505.7	4380.9
27.5°	4561.1	4519.5	4436.3	4200.7	4055.1
30°	4325.4	4304.6	4186.8	3881.8	3770.9
32.5°	4103.6	4069.0	3944.2	3625.3	3535.2
35°	3874.9	3847.1	3660.0	3382.7	3299.5
37.5°	3646.1	3611.5	3375.8	3154.0	3050.0
40°	3417.4	3375.8	3119.3	2918.3	2807.4
42.5°	3202.5	3147.0	2897.5	2682.6	2557.8
45°	2973.7	2911.3	2661.8	2440.0	2342.9
47.5°	2745.0	2689.5	2460.8	2232.0	2121.1
50°	2502.4	2453.9	2245.9	2017.1	1899.3
52.5°	2301.4	2225.1	2024.1	1795.3	1698.3
55°	2065.7	2003.3	1816.1	1601.2	1518.1
57.5°	1850.8	1788.4	1615.1	1414.1	1344.8
60°	1649.8	1559.7	1414.1	1240.8	1185.3
62.5°	1427.9	1358.6	1233.9	1088.3	1157.6
65°	1226.9	1157.6	1046.7	1067.5	887.3
67.5°	1005.1	970.4	873.4	776.4	748.6
70°	818.0	776.4	741.7	637.7	610.0
72.5°	651.6	610.0	561.5	506.0	485.2
75°	492.2	457.5	429.8	409.0	450.6
77.5°	339.7	325.8	305.0	284.2	277.3
80°	221.8	214.9	208.0	201.0	194.1
82.5°	131.7	131.7	131.7	131.7	131.7
85°	69.3	76.2	83.2	90.1	97.0
87.5°	41.6	41.6	48.5	55.5	62.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)