

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: P564206

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564206
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-50-UNV-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13357.0 lumens
Efficiency: N/A
Efficacy: 100.3 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

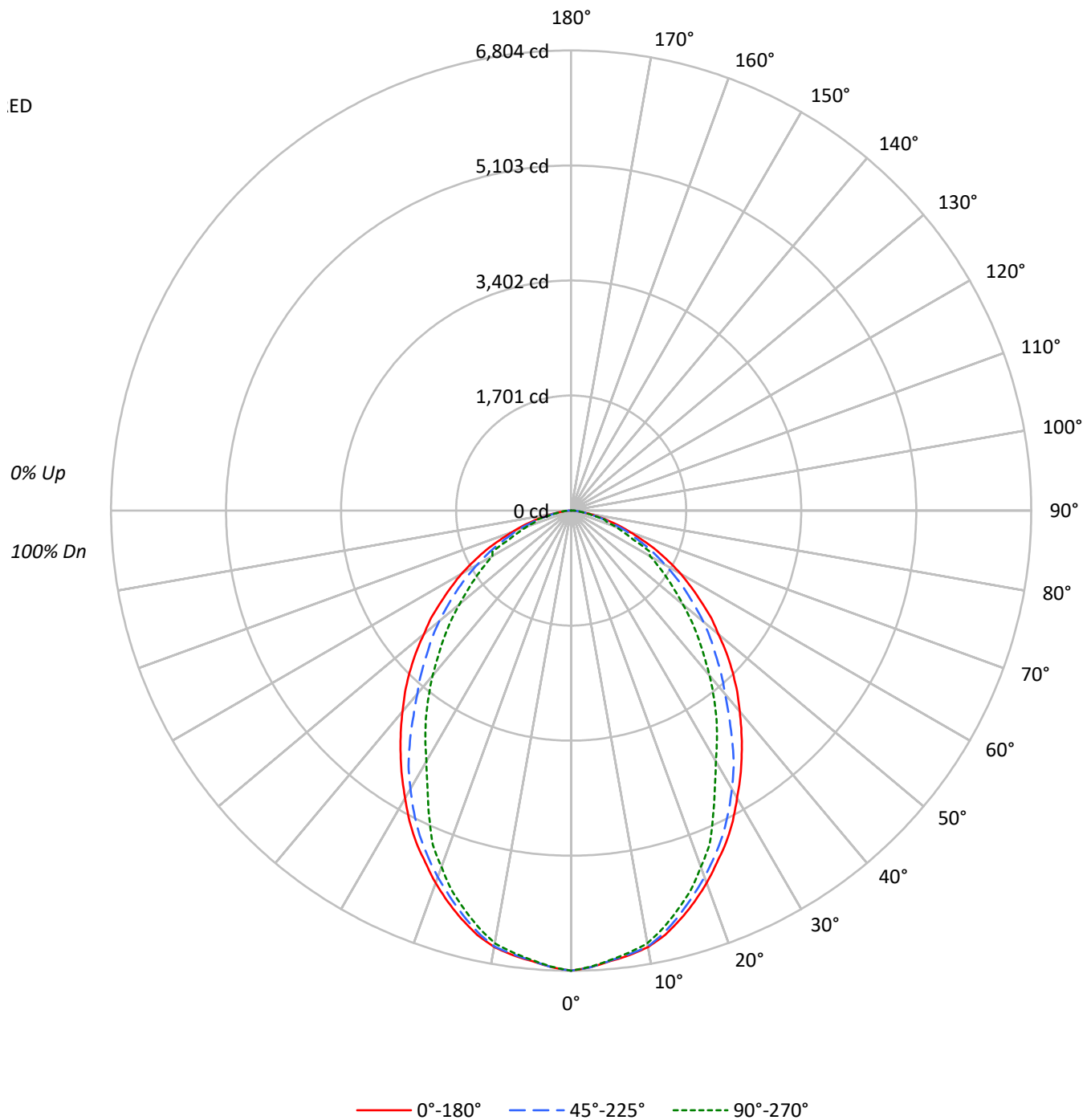
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9155	9155	9155
5°	9030	9020	9009
10°	8952	8941	8877
15°	8711	8623	8502
20°	8391	8255	8030
25°	8046	7871	7380
30°	7626	7381	6648
35°	7222	6822	6150
40°	6811	6217	5595
45°	6421	5747	5059
50°	5944	5335	4511
55°	5499	4834	4041
60°	5038	4318	3619
65°	4432	3781	3205
70°	3651	3311	2723
75°	2903	2535	2658
80°	1950	1829	1706
85°	1215	1457	1700

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6421 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	633.3	4.7
10°-20°	1738.2	13.0
20°-30°	2406.4	18.0
30°-40°	2565.9	19.2
40°-50°	2340.8	17.5
50°-60°	1833.9	13.7
60°-70°	1195.2	8.9
70°-80°	529.5	4.0
80°-90°	113.7	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°	4777.9	35.8
0°-40°	7343.8	55.0
0°-60°	11518.5	86.2
0°-90°	13357.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13357.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6804	6804	6804	6804	6804	
5°	6686	6678	6678	6670	6670	635
15°	6253	6253	6190	6127	6104	1758
25°	5420	5388	5302	5113	4971	2488
35°	4397	4366	4153	3838	3744	2749
45°	3374	3304	3020	2769	2659	2599
55°	2344	2273	2061	1817	1723	2102
65°	1392	1314	1188	1211	1007	1372
75°	558	519	488	464	511	599
85°	79	86	94	102	110	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6803.9	6803.9	6803.9	6803.9	6803.9
2.5°	6756.7	6756.7	6756.7	6748.8	6748.8
5°	6685.9	6678.0	6678.0	6670.2	6670.2
7.5°	6630.8	6623.0	6615.1	6607.2	6591.5
10°	6552.2	6552.2	6544.3	6505.0	6497.1
12.5°	6426.3	6418.5	6387.0	6331.9	6316.2
15°	6253.3	6253.3	6190.3	6127.4	6103.8
17.5°	6064.5	6056.6	5978.0	5915.0	5883.6
20°	5860.0	5844.3	5765.6	5663.3	5608.3
22.5°	5631.9	5631.9	5537.5	5403.8	5348.7
25°	5419.5	5388.0	5301.5	5112.7	4971.2
27.5°	5175.7	5128.5	5034.1	4766.6	4601.5
30°	4908.2	4884.6	4750.9	4404.8	4279.0
32.5°	4656.5	4617.2	4475.6	4113.8	4011.5
35°	4397.0	4365.5	4153.1	3838.5	3744.1
37.5°	4137.4	4098.1	3830.6	3578.9	3460.9
40°	3877.8	3830.6	3539.6	3311.5	3185.6
42.5°	3634.0	3571.1	3287.9	3044.0	2902.5
45°	3374.4	3303.6	3020.4	2768.7	2658.6
47.5°	3114.8	3051.9	2792.3	2532.8	2406.9
50°	2839.5	2784.5	2548.5	2288.9	2155.2
52.5°	2611.4	2524.9	2296.8	2037.2	1927.1
55°	2344.0	2273.2	2060.8	1817.0	1722.6
57.5°	2100.2	2029.4	1832.7	1604.6	1526.0
60°	1872.0	1769.8	1604.6	1408.0	1345.0
62.5°	1620.3	1541.7	1400.1	1234.9	1313.6
65°	1392.2	1313.6	1187.7	1211.3	1006.8
67.5°	1140.5	1101.2	991.1	881.0	849.5
70°	928.2	881.0	841.6	723.6	692.2
72.5°	739.4	692.2	637.1	574.2	550.6
75°	558.5	519.1	487.7	464.1	511.3
77.5°	385.4	369.7	346.1	322.5	314.6
80°	251.7	243.8	236.0	228.1	220.2
82.5°	149.4	149.4	149.4	149.4	149.4
85°	78.7	86.5	94.4	102.3	110.1
87.5°	47.2	47.2	55.1	62.9	70.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)