

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: P563727

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563727
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-81-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17557.0 lumens
Efficiency: N/A
Efficacy: 101.6 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

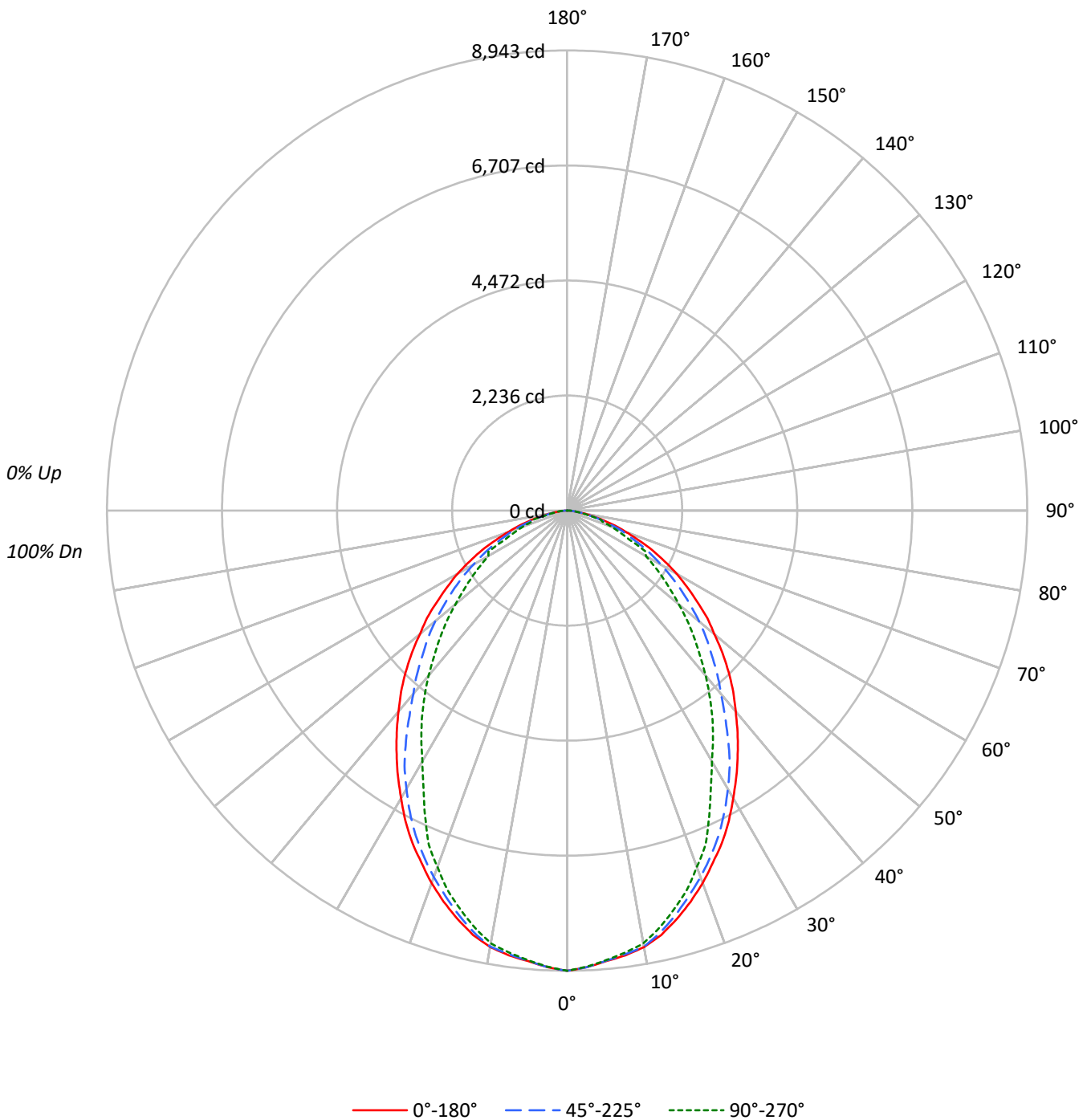
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	12033	12033	12033
5°	11870	11856	11842
10°	11767	11753	11668
15°	11450	11334	11176
20°	11029	10851	10555
25°	10576	10345	9701
30°	10023	9702	8738
35°	9493	8967	8084
40°	8953	8172	7355
45°	8440	7555	6650
50°	7813	7012	5930
55°	7227	6354	5312
60°	6622	5676	4758
65°	5826	4970	4213
70°	4799	4352	3579
75°	3816	3332	3493
80°	2564	2404	2243
85°	1596	1916	2234

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8440 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	832.5	4.7
10°-20°	2284.7	13.0
20°-30°	3163.1	18.0
30°-40°	3372.7	19.2
40°-50°	3076.9	17.5
50°-60°	2410.5	13.7
60°-70°	1571.1	8.9
70°-80°	696.0	4.0
80°-90°	149.4	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°	6280.3	35.8
0°-40°	9653.0	55.0
0°-60°	15140.5	86.2
0°-90°	17557.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17557.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8943	8943	8943	8943	8943	
5°	8788	8778	8778	8768	8768	834
15°	8220	8220	8137	8054	8023	2311
25°	7124	7082	6968	6720	6534	3270
35°	5780	5738	5459	5046	4921	3613
45°	4436	4342	3970	3639	3495	3417
55°	3081	2988	2709	2388	2264	2763
65°	1830	1727	1561	1592	1323	1803
75°	734	682	641	610	672	787
85°	103	114	124	134	145	143
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8943.3	8943.3	8943.3	8943.3	8943.3
2.5°	8881.3	8881.3	8881.3	8870.9	8870.9
5°	8788.2	8777.9	8777.9	8767.5	8767.5
7.5°	8715.8	8705.5	8695.2	8684.8	8664.1
10°	8612.5	8612.5	8602.1	8550.4	8540.1
12.5°	8447.0	8436.7	8395.3	8323.0	8302.3
15°	8219.6	8219.6	8136.9	8054.1	8023.1
17.5°	7971.4	7961.1	7857.7	7775.0	7733.6
20°	7702.6	7681.9	7578.5	7444.1	7371.8
22.5°	7402.8	7402.8	7278.7	7102.9	7030.6
25°	7123.6	7082.3	6968.5	6720.4	6534.3
27.5°	6803.1	6741.1	6617.0	6265.5	6048.4
30°	6451.6	6420.6	6244.8	5789.9	5624.5
32.5°	6120.7	6069.0	5882.9	5407.3	5272.9
35°	5779.5	5738.2	5459.0	5045.5	4921.4
37.5°	5438.4	5386.7	5035.1	4704.3	4549.2
40°	5097.2	5035.1	4652.6	4352.8	4187.3
42.5°	4776.7	4693.9	4321.7	4001.2	3815.1
45°	4435.5	4342.4	3970.2	3639.4	3494.6
47.5°	4094.3	4011.6	3670.4	3329.2	3163.8
50°	3732.4	3660.0	3349.9	3008.7	2832.9
52.5°	3432.6	3318.8	3019.0	2677.8	2533.1
55°	3081.0	2988.0	2708.8	2388.3	2264.3
57.5°	2760.5	2667.5	2409.0	2109.2	2005.8
60°	2460.7	2326.3	2109.2	1850.7	1768.0
62.5°	2129.8	2026.5	1840.4	1623.2	1726.6
65°	1830.0	1726.6	1561.2	1592.2	1323.4
67.5°	1499.2	1447.5	1302.7	1158.0	1116.6
70°	1220.0	1158.0	1106.3	951.2	909.8
72.5°	971.9	909.8	837.5	754.8	723.7
75°	734.1	682.4	641.0	610.0	672.0
77.5°	506.6	485.9	454.9	423.9	413.6
80°	330.9	320.5	310.2	299.8	289.5
82.5°	196.4	196.4	196.4	196.4	196.4
85°	103.4	113.7	124.1	134.4	144.7
87.5°	62.0	62.0	72.4	82.7	93.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)