

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: P564193

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564193
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-93-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16065.0 lumens
Efficiency: N/A
Efficacy: 120.6 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

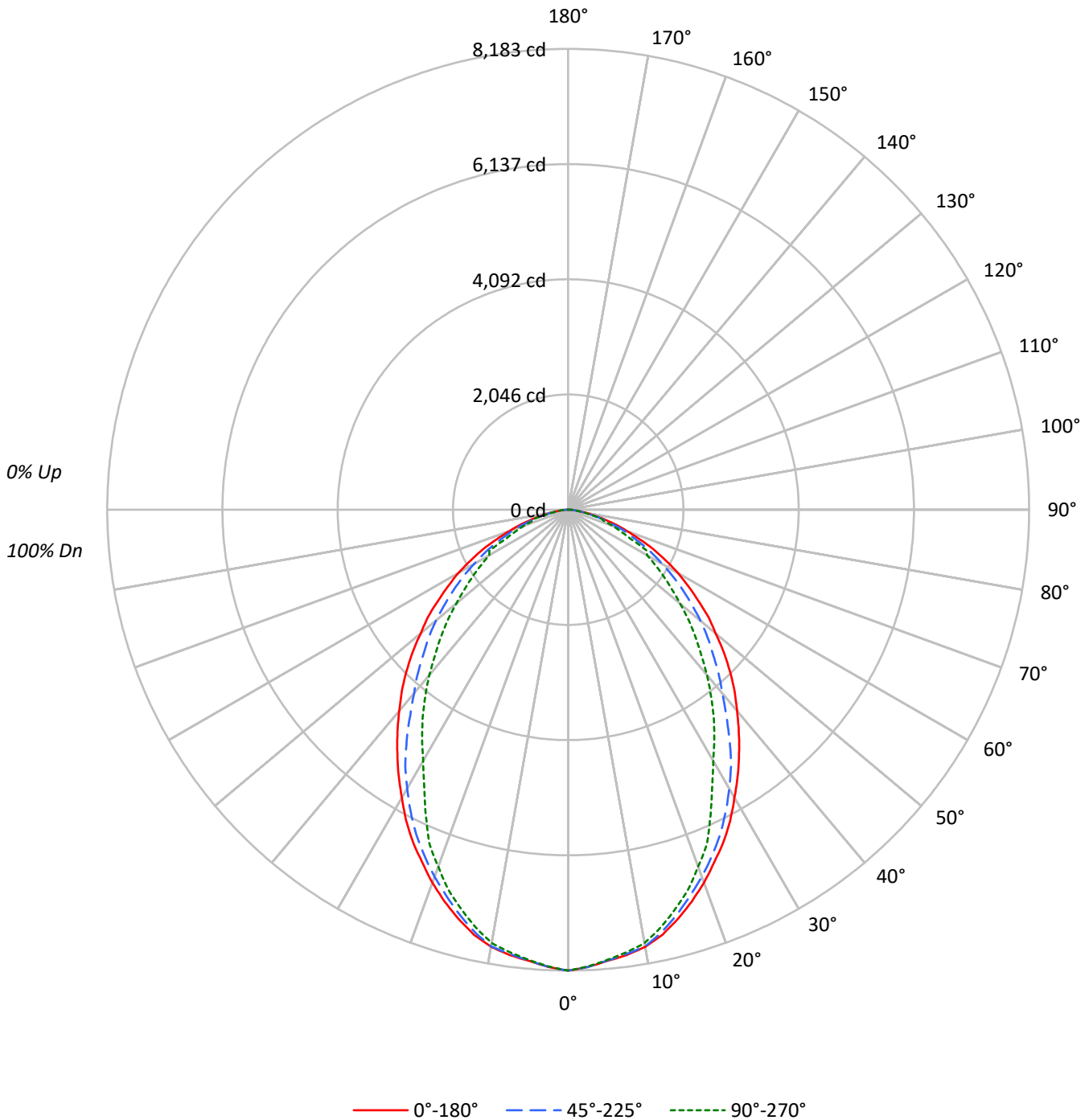
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11011	11011	11011
5°	10861	10848	10835
10°	10767	10754	10676
15°	10477	10371	10226
20°	10092	9929	9658
25°	9677	9466	8876
30°	9172	8878	7996
35°	8686	8205	7397
40°	8192	7477	6730
45°	7723	6913	6084
50°	7149	6416	5426
55°	6613	5814	4860
60°	6059	5193	4353
65°	5331	4548	3855
70°	4391	3982	3275
75°	3492	3049	3197
80°	2345	2199	2053
85°	1460	1752	2044

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7723 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	761.8	4.7
10°-20°	2090.6	13.0
20°-30°	2894.3	18.0
30°-40°	3086.1	19.2
40°-50°	2815.4	17.5
50°-60°	2205.7	13.7
60°-70°	1437.6	8.9
70°-80°	636.9	4.0
80°-90°	136.7	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°	5746.6	35.8
0°-40°	8832.7	55.0
0°-60°	13853.8	86.2
0°-90°	16065.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16065.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8183	8183	8183	8183	8183	
5°	8041	8032	8032	8022	8022	763
15°	7521	7521	7445	7370	7341	2114
25°	6518	6480	6376	6149	5979	2993
35°	5288	5251	4995	4617	4503	3306
45°	4058	3973	3633	3330	3198	3126
55°	2819	2734	2479	2185	2072	2529
65°	1674	1580	1428	1457	1211	1650
75°	672	624	586	558	615	720
85°	95	104	114	123	132	131
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8183.3	8183.3	8183.3	8183.3	8183.3
2.5°	8126.5	8126.5	8126.5	8117.1	8117.1
5°	8041.4	8031.9	8031.9	8022.5	8022.5
7.5°	7975.2	7965.7	7956.2	7946.8	7927.9
10°	7880.6	7880.6	7871.1	7823.8	7814.3
12.5°	7729.2	7719.7	7681.9	7615.7	7596.7
15°	7521.1	7521.1	7445.4	7369.7	7341.3
17.5°	7294.0	7284.6	7189.9	7114.3	7076.4
20°	7048.0	7029.1	6934.5	6811.5	6745.3
22.5°	6773.7	6773.7	6660.2	6499.3	6433.1
25°	6518.3	6480.4	6376.3	6149.3	5979.0
27.5°	6225.0	6168.2	6054.7	5733.0	5534.4
30°	5903.3	5874.9	5714.1	5297.9	5146.5
32.5°	5600.6	5553.3	5383.0	4947.8	4824.8
35°	5288.4	5250.6	4995.1	4616.7	4503.2
37.5°	4976.2	4928.9	4607.2	4304.5	4162.6
40°	4664.0	4607.2	4257.2	3982.9	3831.5
42.5°	4370.7	4295.0	3954.5	3661.2	3490.9
45°	4058.5	3973.4	3632.8	3330.1	3197.6
47.5°	3746.3	3670.7	3358.5	3046.3	2894.9
50°	3415.2	3349.0	3065.2	2753.0	2592.2
52.5°	3140.9	3036.8	2762.5	2450.3	2317.8
55°	2819.2	2734.1	2478.6	2185.4	2071.8
57.5°	2525.9	2440.8	2204.3	1929.9	1835.3
60°	2251.6	2128.6	1929.9	1693.4	1617.7
62.5°	1948.9	1854.2	1684.0	1485.3	1579.9
65°	1674.5	1579.9	1428.5	1456.9	1210.9
67.5°	1371.8	1324.5	1192.0	1059.6	1021.7
70°	1116.3	1059.6	1012.3	870.4	832.5
72.5°	889.3	832.5	766.3	690.6	662.2
75°	671.7	624.4	586.5	558.2	614.9
77.5°	463.6	444.6	416.3	387.9	378.4
80°	302.7	293.3	283.8	274.4	264.9
82.5°	179.7	179.7	179.7	179.7	179.7
85°	94.6	104.1	113.5	123.0	132.4
87.5°	56.8	56.8	66.2	75.7	85.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)