

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: P561420

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561420
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-12-4-LD4-2HI-40-UNV-81-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6511.0 lumens
Efficiency: N/A
Efficacy: 75.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

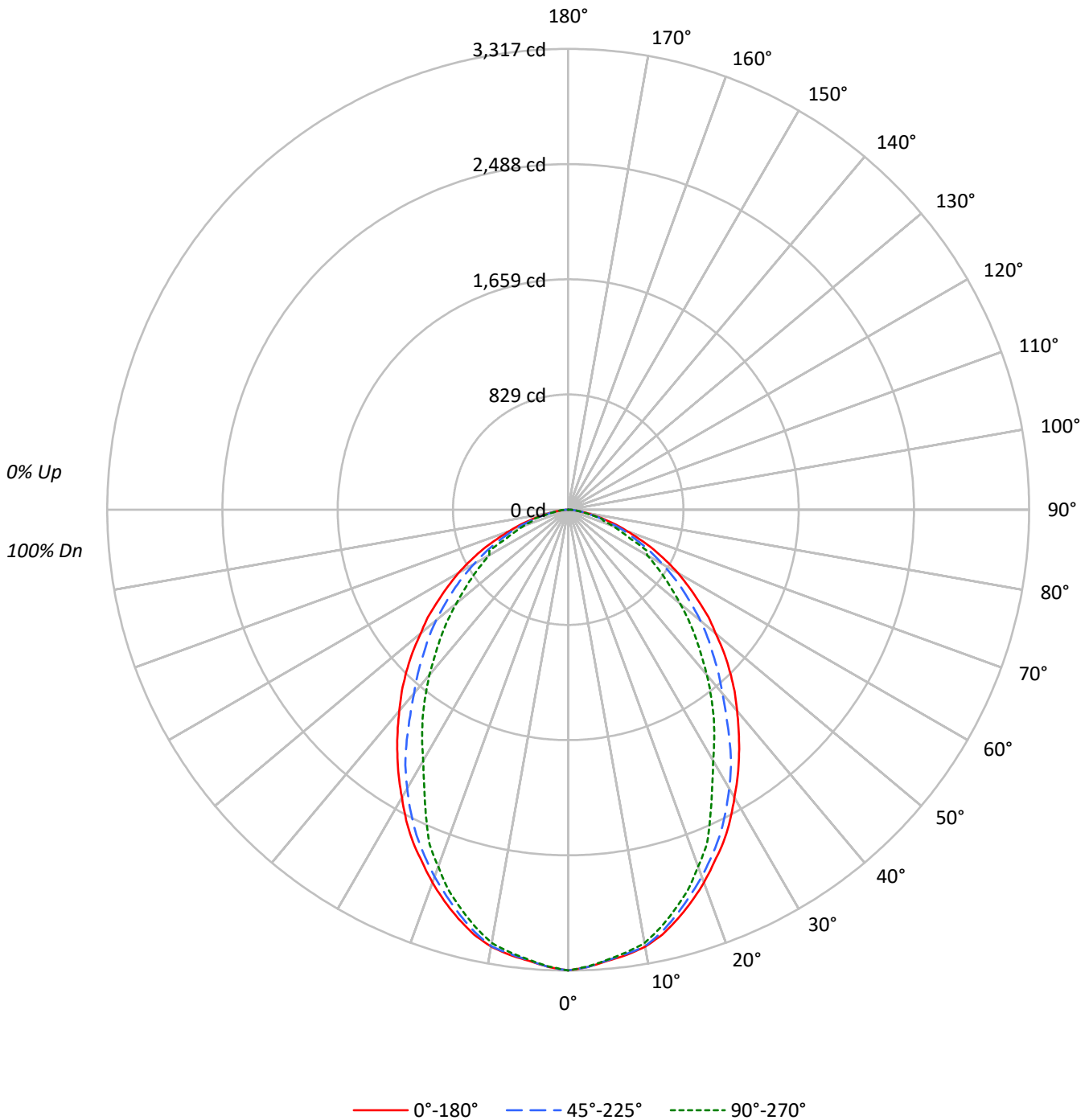
Input Watts (W): 86.4
Input Voltage (V):
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	8925	8925	8925
5°	8804	8793	8783
10°	8727	8717	8654
15°	8492	8406	8289
20°	8180	8048	7829
25°	7844	7673	7195
30°	7434	7196	6481
35°	7041	6651	5996
40°	6640	6061	5455
45°	6260	5603	4932
50°	5795	5201	4398
55°	5361	4713	3940
60°	4911	4210	3529
65°	4322	3687	3125
70°	3559	3228	2655
75°	2830	2471	2591
80°	1901	1782	1664
85°	1183	1420	1658

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6260 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	308.7	4.7
10°-20°	847.3	13.0
20°-30°	1173.0	18.0
30°-40°	1250.8	19.2
40°-50°	1141.1	17.5
50°-60°	893.9	13.7
60°-70°	582.6	8.9
70°-80°	258.1	4.0
80°-90°	55.4	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°	2329.0	35.8
0°-40°	3579.8	55.0
0°-60°	5614.8	86.2
0°-90°	6511.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6511.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3317	3317	3317	3317	3317	
5°	3259	3255	3255	3251	3251	309
15°	3048	3048	3018	2987	2975	857
25°	2642	2626	2584	2492	2423	1213
35°	2143	2128	2024	1871	1825	1340
45°	1645	1610	1472	1350	1296	1267
55°	1143	1108	1005	886	840	1025
65°	679	640	579	590	491	669
75°	272	253	238	226	249	292
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3316.6	3316.6	3316.6	3316.6	3316.6
2.5°	3293.6	3293.6	3293.6	3289.8	3289.8
5°	3259.1	3255.3	3255.3	3251.4	3251.4
7.5°	3232.3	3228.4	3224.6	3220.8	3213.1
10°	3193.9	3193.9	3190.1	3170.9	3167.1
12.5°	3132.6	3128.7	3113.4	3086.6	3078.9
15°	3048.2	3048.2	3017.5	2986.9	2975.4
17.5°	2956.2	2952.4	2914.0	2883.3	2868.0
20°	2856.5	2848.8	2810.5	2760.7	2733.8
22.5°	2745.3	2745.3	2699.3	2634.1	2607.3
25°	2641.8	2626.5	2584.3	2492.3	2423.2
27.5°	2522.9	2499.9	2453.9	2323.5	2243.0
30°	2392.6	2381.1	2315.9	2147.2	2085.8
32.5°	2269.9	2250.7	2181.7	2005.3	1955.5
35°	2143.3	2128.0	2024.5	1871.1	1825.1
37.5°	2016.8	1997.6	1867.3	1744.6	1687.1
40°	1890.3	1867.3	1725.4	1614.2	1552.9
42.5°	1771.4	1740.7	1602.7	1483.9	1414.8
45°	1644.9	1610.4	1472.3	1349.7	1296.0
47.5°	1518.4	1487.7	1361.2	1234.6	1173.3
50°	1384.2	1357.3	1242.3	1115.8	1050.6
52.5°	1273.0	1230.8	1119.6	993.1	939.4
55°	1142.6	1108.1	1004.6	885.7	839.7
57.5°	1023.7	989.2	893.4	782.2	743.8
60°	912.5	862.7	782.2	686.3	655.7
62.5°	789.9	751.5	682.5	602.0	640.3
65°	678.7	640.3	579.0	590.5	490.8
67.5°	556.0	536.8	483.1	429.4	414.1
70°	452.4	429.4	410.3	352.7	337.4
72.5°	360.4	337.4	310.6	279.9	268.4
75°	272.2	253.1	237.7	226.2	249.2
77.5°	187.9	180.2	168.7	157.2	153.4
80°	122.7	118.9	115.0	111.2	107.4
82.5°	72.9	72.9	72.9	72.9	72.9
85°	38.3	42.2	46.0	49.8	53.7
87.5°	23.0	23.0	26.8	30.7	34.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)