

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: P560770

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560770
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-LD4-1HI-35-UNV-81-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3174.0 lumens
Efficiency: N/A
Efficacy: 73.5 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

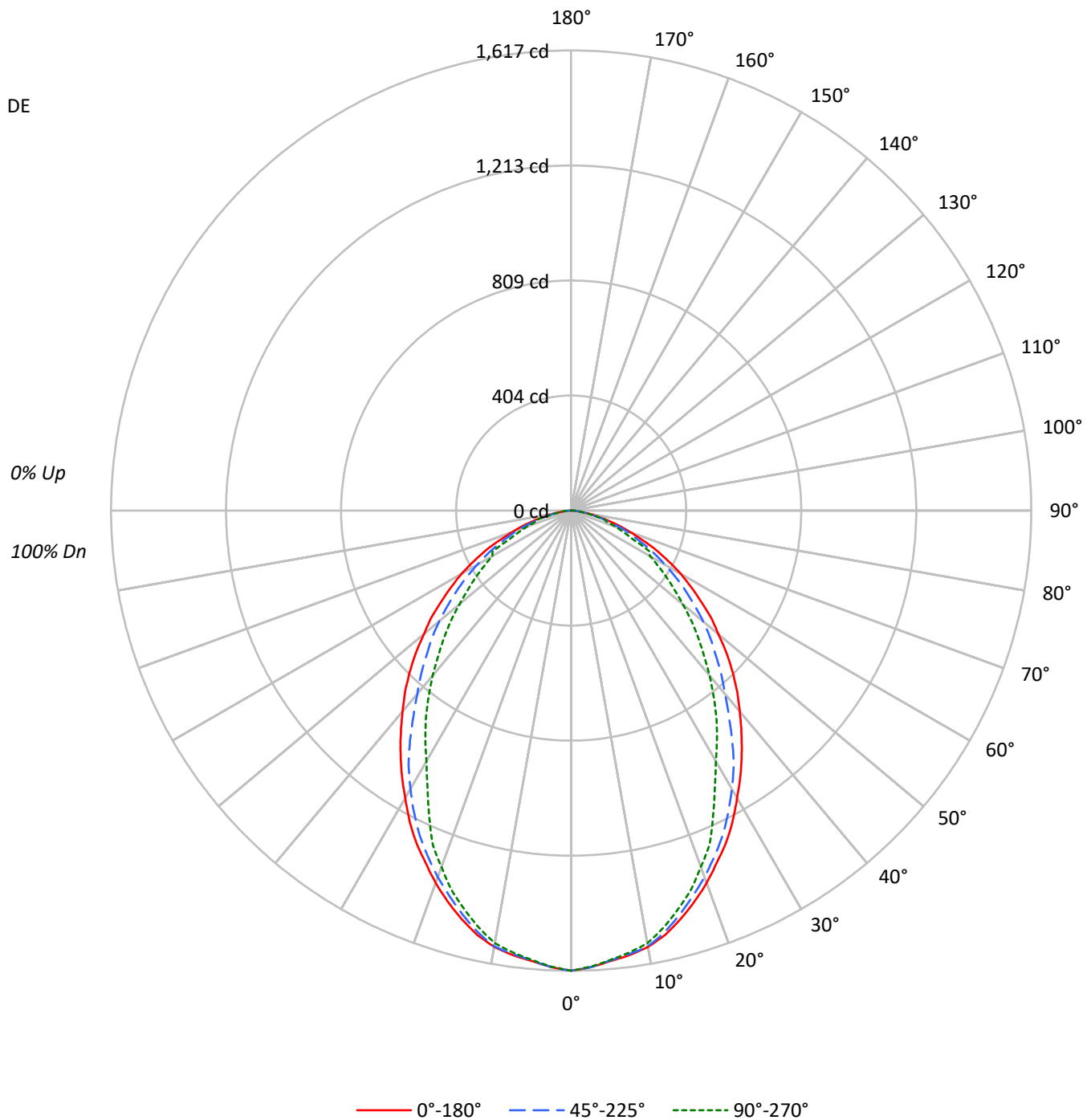
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	4351	4351	4351
5°	4292	4287	4281
10°	4254	4249	4219
15°	4140	4098	4041
20°	3988	3924	3816
25°	3824	3741	3507
30°	3624	3508	3159
35°	3432	3242	2923
40°	3237	2955	2659
45°	3052	2731	2404
50°	2825	2535	2144
55°	2613	2297	1920
60°	2394	2052	1720
65°	2106	1797	1523
70°	1736	1574	1294
75°	1380	1205	1263
80°	927	869	810
85°	577	692	809

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3052 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.5	4.7
10°-20°	413.0	13.0
20°-30°	571.8	18.0
30°-40°	609.7	19.2
40°-50°	556.3	17.5
50°-60°	435.8	13.7
60°-70°	284.0	8.9
70°-80°	125.8	4.0
80°-90°	27.0	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°	1135.4	35.8
0°-40°	1745.1	55.0
0°-60°	2737.1	86.2
0°-90°	3174.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3174.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1617	1617	1617	1617	1617	
5°	1589	1587	1587	1585	1585	151
15°	1486	1486	1471	1456	1450	418
25°	1288	1280	1260	1215	1181	591
35°	1045	1037	987	912	890	653
45°	802	785	718	658	632	618
55°	557	540	490	432	409	500
65°	331	312	282	288	239	326
75°	133	123	116	110	122	142
85°	19	21	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1616.8	1616.8	1616.8	1616.8	1616.8
2.5°	1605.6	1605.6	1605.6	1603.7	1603.7
5°	1588.8	1586.9	1586.9	1585.0	1585.0
7.5°	1575.7	1573.8	1571.9	1570.1	1566.3
10°	1557.0	1557.0	1555.1	1545.8	1543.9
12.5°	1527.1	1525.2	1517.7	1504.6	1500.9
15°	1486.0	1486.0	1471.0	1456.0	1450.4
17.5°	1441.1	1439.2	1420.5	1405.6	1398.1
20°	1392.5	1388.8	1370.1	1345.8	1332.7
22.5°	1338.3	1338.3	1315.9	1284.1	1271.0
25°	1287.8	1280.4	1259.8	1214.9	1181.3
27.5°	1229.9	1218.7	1196.2	1132.7	1093.4
30°	1166.3	1160.7	1129.0	1046.7	1016.8
32.5°	1106.5	1097.2	1063.5	977.6	953.3
35°	1044.8	1037.4	986.9	912.1	889.7
37.5°	983.2	973.8	910.3	850.5	822.4
40°	921.5	910.3	841.1	786.9	757.0
42.5°	863.5	848.6	781.3	723.4	689.7
45°	801.9	785.0	717.7	657.9	631.8
47.5°	740.2	725.2	663.5	601.9	572.0
50°	674.8	661.7	605.6	543.9	512.1
52.5°	620.5	600.0	545.8	484.1	457.9
55°	557.0	540.2	489.7	431.8	409.3
57.5°	499.1	482.2	435.5	381.3	362.6
60°	444.9	420.6	381.3	334.6	319.6
62.5°	385.0	366.3	332.7	293.5	312.1
65°	330.8	312.1	282.2	287.8	239.2
67.5°	271.0	261.7	235.5	209.3	201.9
70°	220.6	209.3	200.0	172.0	164.5
72.5°	175.7	164.5	151.4	136.4	130.8
75°	132.7	123.4	115.9	110.3	121.5
77.5°	91.6	87.8	82.2	76.6	74.8
80°	59.8	57.9	56.1	54.2	52.3
82.5°	35.5	35.5	35.5	35.5	35.5
85°	18.7	20.6	22.4	24.3	26.2
87.5°	11.2	11.2	13.1	15.0	16.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)