

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: P563591

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563591  
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-LD4-3STD-50-UNV-81-87-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

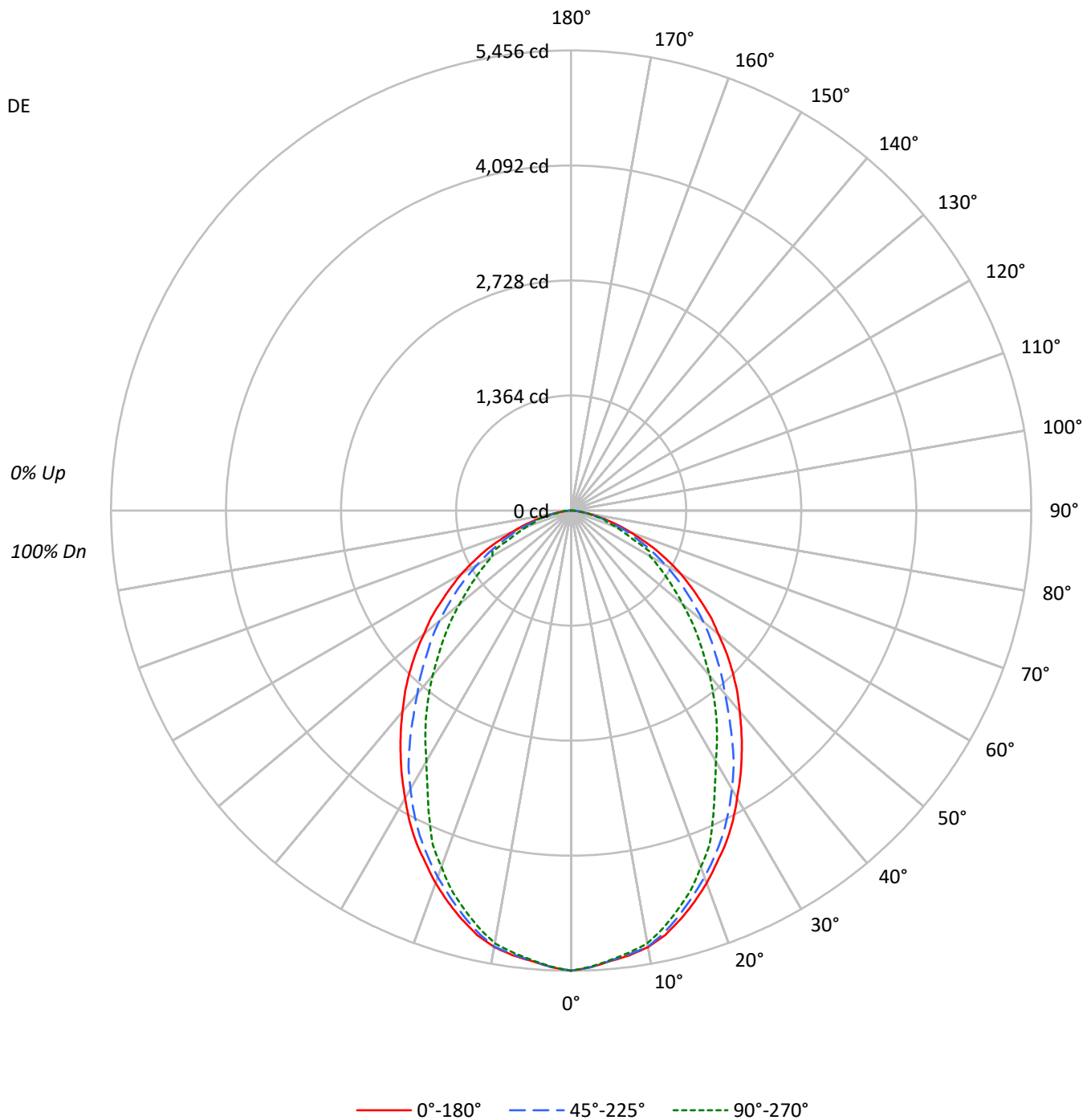
Lumens per Lamp: N/A  
Luminaire Lumens: 10711.0 lumens  
Efficiency: N/A  
Efficacy: 107.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7341	7341	7341
5°	7241	7233	7224
10°	7179	7170	7118
15°	6985	6915	6818
20°	6728	6620	6439
25°	6452	6311	5918
30°	6115	5919	5331
35°	5791	5470	4932
40°	5462	4985	4487
45°	5149	4609	4057
50°	4766	4278	3618
55°	4409	3877	3240
60°	4040	3462	2902
65°	3554	3032	2571
70°	2928	2655	2184
75°	2328	2033	2131
80°	1564	1466	1368
85°	974	1169	1363

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5149 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	507.9	4.7
10°-20°	1393.8	13.0
20°-30°	1929.7	18.0
30°-40°	2057.6	19.2
40°-50°	1877.1	17.5
50°-60°	1470.6	13.7
60°-70°	958.5	8.9
70°-80°	424.6	4.0
80°-90°	91.2	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°	3831.4	35.8
0°-40°	5889.0	55.0
0°-60°	9236.7	86.2
0°-90°	10711.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10711.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5456	5456	5456	5456	5456	
5°	5361	5355	5355	5349	5349	509
15°	5014	5014	4964	4914	4895	1410
25°	4346	4321	4251	4100	3986	1995
35°	3526	3501	3330	3078	3002	2204
45°	2706	2649	2422	2220	2132	2084
55°	1880	1823	1653	1457	1381	1686
65°	1116	1053	952	971	807	1100
75°	448	416	391	372	410	480
85°	63	69	76	82	88	87
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5456.0	5456.0	5456.0	5456.0	5456.0
2.5°	5418.2	5418.2	5418.2	5411.9	5411.9
5°	5361.4	5355.1	5355.1	5348.8	5348.8
7.5°	5317.3	5311.0	5304.7	5298.4	5285.7
10°	5254.2	5254.2	5247.9	5216.4	5210.0
12.5°	5153.3	5147.0	5121.7	5077.6	5065.0
15°	5014.5	5014.5	4964.1	4913.6	4894.7
17.5°	4863.1	4856.8	4793.7	4743.3	4718.1
20°	4699.1	4686.5	4623.4	4541.4	4497.3
22.5°	4516.2	4516.2	4440.5	4333.3	4289.1
25°	4345.9	4320.7	4251.3	4099.9	3986.4
27.5°	4150.4	4112.5	4036.8	3822.4	3689.9
30°	3935.9	3917.0	3809.8	3532.2	3431.3
32.5°	3734.1	3702.5	3589.0	3298.9	3216.9
35°	3525.9	3500.7	3330.4	3078.1	3002.4
37.5°	3317.8	3286.2	3071.8	2869.9	2775.3
40°	3109.6	3071.8	2838.4	2655.5	2554.6
42.5°	2914.1	2863.6	2636.6	2441.0	2327.5
45°	2705.9	2649.2	2422.1	2220.3	2132.0
47.5°	2497.8	2447.3	2239.2	2031.0	1930.1
50°	2277.0	2232.9	2043.6	1835.5	1728.3
52.5°	2094.1	2024.7	1841.8	1633.7	1545.4
55°	1879.7	1822.9	1652.6	1457.0	1381.4
57.5°	1684.1	1627.4	1469.7	1286.7	1223.7
60°	1501.2	1419.2	1286.7	1129.1	1078.6
62.5°	1299.4	1236.3	1122.7	990.3	1053.4
65°	1116.4	1053.4	952.4	971.4	807.4
67.5°	914.6	883.1	794.8	706.4	681.2
70°	744.3	706.4	674.9	580.3	555.1
72.5°	592.9	555.1	510.9	460.5	441.5
75°	447.8	416.3	391.1	372.1	410.0
77.5°	309.1	296.5	277.5	258.6	252.3
80°	201.8	195.5	189.2	182.9	176.6
82.5°	119.8	119.8	119.8	119.8	119.8
85°	63.1	69.4	75.7	82.0	88.3
87.5°	37.8	37.8	44.2	50.5	56.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)