

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P309468

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CA125-W2A-U-4500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P309468
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L82765-HRP-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 4500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3182.0 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

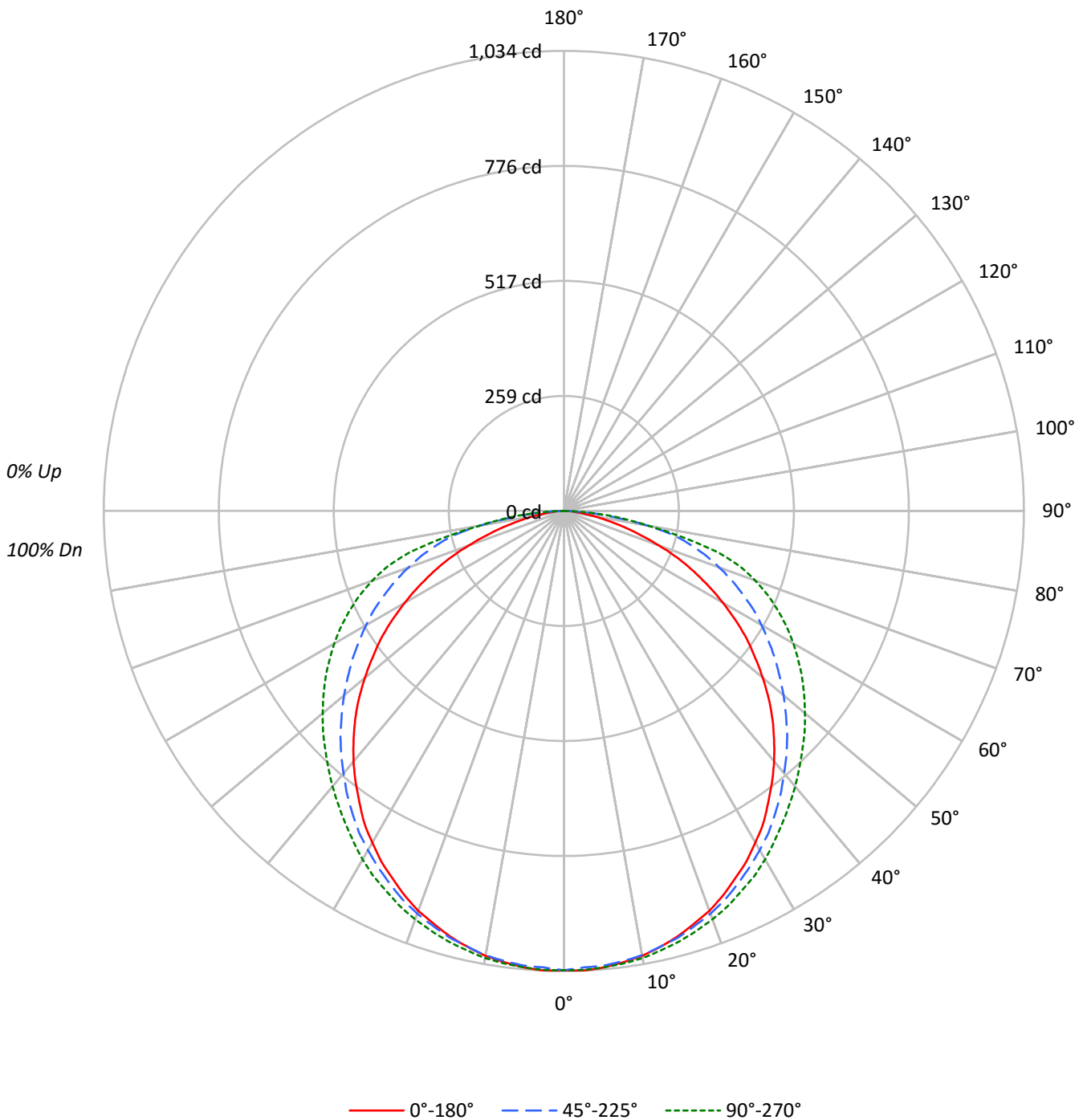
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		
	1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82	82	82	82	82	82		
	2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67	67	67	67	67	67		
	3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56	56	56	56	56	56		
	4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48	48	48	48	48	48		
	5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41	41	41	41	41	41		
	6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36	36	36	36	36	36		
	7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31	31	31	31	31	31		
	8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28	28	28	28	28	28		
	9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25	25	25	25	25	25		
	10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23	23	23	23	23	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1389	1389	1389
5°	1391	1385	1391
10°	1387	1385	1394
15°	1379	1382	1395
20°	1370	1379	1398
25°	1353	1372	1400
30°	1337	1368	1405
35°	1315	1361	1407
40°	1291	1352	1420
45°	1262	1351	1442
50°	1221	1350	1481
55°	1178	1359	1534
60°	1111	1380	1602
65°	1026	1412	1692
70°	896	1462	1803
75°	727	1537	1863
80°	537	1507	1507
85°	411	1110	1255



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.8	3.1
10°-20°	280.8	8.8
20°-30°	427.6	13.4
30°-40°	519.2	16.3
40°-50°	548.5	17.2
50°-60°	517.6	16.3
60°-70°	430.3	13.5
70°-80°	283.1	8.9
80°-90°	77.2	2.4
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°	806.2	25.3
0°-40°	1325.4	41.7
0°-60°	2391.4	75.2
0°-90°	3182.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3182.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1032	1032	1032	1032	1032	
5°	1030	1030	1026	1030	1030	98
15°	990	991	992	1002	1002	279
25°	911	916	924	940	943	420
35°	801	810	829	850	857	501
45°	663	677	710	745	758	511
55°	502	524	580	634	654	447
65°	322	360	444	509	532	319
75°	140	204	296	350	358	151
85°	27	59	72	80	81	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1032.4	1032.4	1032.4	1032.4	1032.4
2.5°	1033.7	1032.4	1027.1	1032.4	1032.4
5°	1029.7	1029.7	1025.7	1029.7	1029.7
7.5°	1023.1	1023.1	1020.4	1025.7	1025.7
10°	1015.1	1015.1	1013.8	1020.4	1020.4
12.5°	1003.1	1004.4	1003.1	1011.1	1011.1
15°	989.8	991.1	992.4	1001.8	1001.8
17.5°	972.5	975.1	977.8	988.4	989.8
20°	956.5	957.8	963.1	975.1	976.5
22.5°	935.2	939.2	945.8	957.8	961.8
25°	911.2	916.5	924.5	940.5	943.1
27.5°	888.5	892.5	903.2	920.5	925.8
30°	860.6	867.2	880.5	897.9	904.5
32.5°	833.9	840.6	856.6	875.2	880.5
35°	800.6	809.9	828.6	849.9	856.6
37.5°	768.6	778.0	800.6	824.6	832.6
40°	735.3	746.0	770.0	797.9	808.6
42.5°	699.4	714.0	740.7	771.3	783.3
45°	663.4	676.7	710.0	744.7	758.0
47.5°	624.8	640.8	676.7	718.0	734.0
50°	583.5	603.5	644.8	690.0	707.4
52.5°	542.2	564.8	611.4	662.1	680.7
55°	502.2	523.5	579.5	634.1	654.1
57.5°	458.3	484.9	546.2	604.8	624.8
60°	413.0	442.3	512.9	574.1	595.5
62.5°	367.7	401.0	480.9	542.2	564.8
65°	322.4	359.7	443.6	508.9	531.5
67.5°	278.4	319.7	409.0	474.2	496.9
70°	227.8	279.7	371.7	435.6	458.3
72.5°	181.2	241.1	335.7	395.6	415.6
75°	139.9	203.8	295.7	350.4	358.3
77.5°	102.6	166.5	254.4	273.1	274.4
80°	69.3	133.2	194.5	191.8	194.5
82.5°	45.3	99.9	122.6	137.2	138.5
85°	26.6	58.6	71.9	79.9	81.3
87.5°	13.3	20.0	25.3	26.6	29.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)