

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: P311520

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CP250-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: P311520
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB 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: 4105.0 lumens
Efficiency: N/A
Efficacy: 107.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

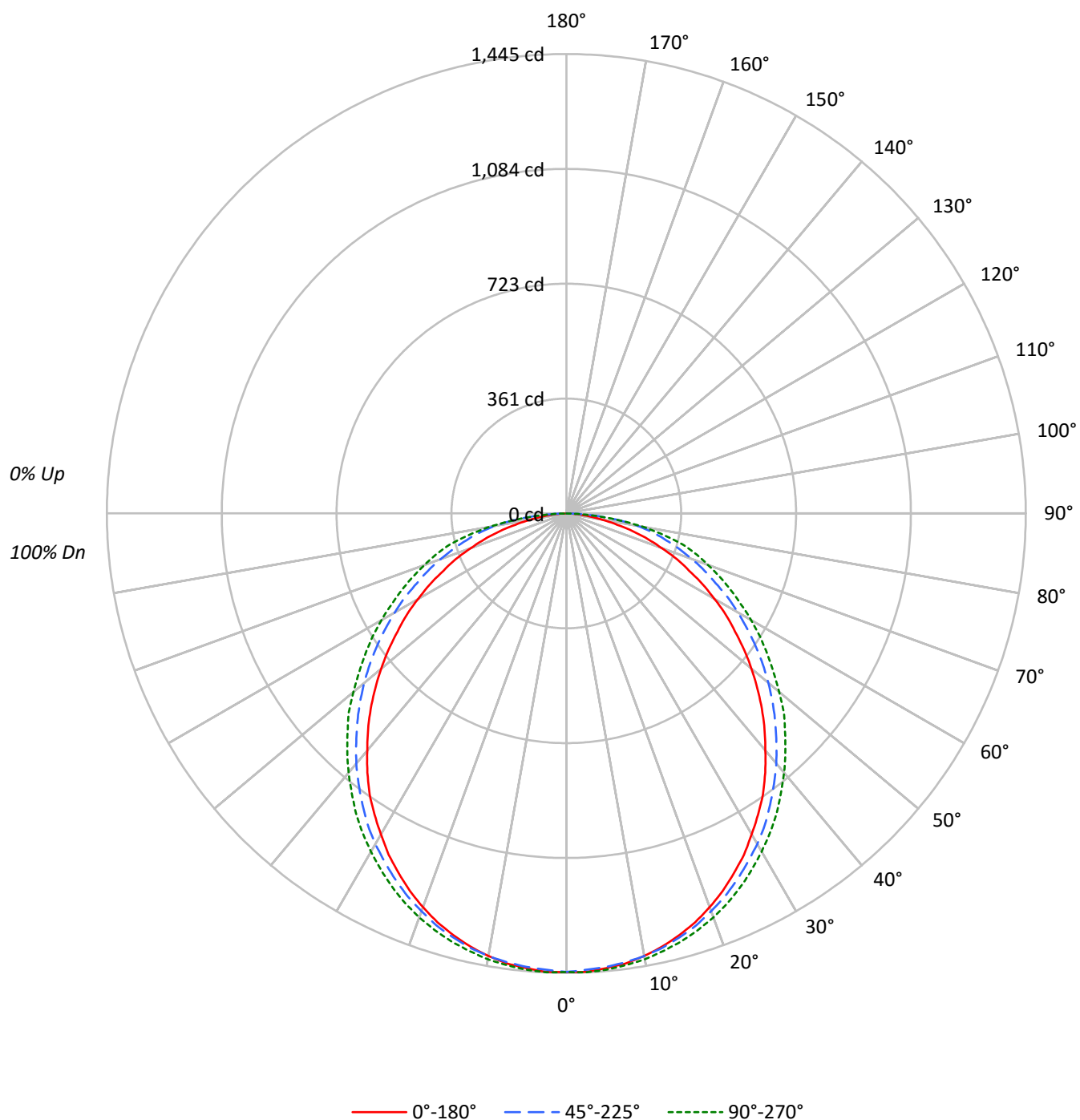
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83		
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69		
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58		
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49		
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42		
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37		
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33		
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1940	1940	1940
5°	1939	1934	1946
10°	1931	1931	1945
15°	1913	1922	1942
20°	1887	1906	1936
25°	1852	1887	1924
30°	1811	1866	1908
35°	1771	1835	1893
40°	1711	1805	1871
45°	1655	1769	1851
50°	1591	1736	1829
55°	1520	1704	1811
60°	1449	1677	1807
65°	1358	1648	1818
70°	1257	1657	1867
75°	1125	1688	1972
80°	910	1788	1929
85°	684	1570	1530



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.5	3.3
10°-20°	390.1	9.5
20°-30°	586.4	14.3
30°-40°	698.5	17.0
40°-50°	714.9	17.4
50°-60°	643.6	15.7
60°-70°	505.4	12.3
70°-80°	328.0	8.0
80°-90°	101.5	2.5
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°	1113.0	27.1
0°-40°	1811.6	44.1
0°-60°	3170.1	77.2
0°-90°	4105.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4105.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1442	1442	1442	1442	1442	
5°	1436	1438	1432	1440	1441	136
15°	1373	1377	1380	1391	1394	387
25°	1248	1258	1271	1292	1296	575
35°	1078	1091	1117	1145	1153	673
45°	870	891	930	965	973	671
55°	648	677	726	764	772	581
65°	426	459	518	561	571	424
75°	216	258	325	369	379	229
85°	44	82	102	99	99	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1442.1	1442.1	1442.1	1442.1	1442.1
2.5°	1443.4	1443.4	1436.9	1443.4	1444.7
5°	1435.6	1438.2	1431.7	1439.5	1440.8
7.5°	1427.8	1427.8	1423.9	1431.7	1433.0
10°	1413.4	1414.7	1413.4	1422.6	1423.9
12.5°	1395.2	1397.8	1399.1	1408.2	1409.5
15°	1373.0	1376.9	1379.5	1391.3	1393.9
17.5°	1348.2	1352.1	1358.7	1371.7	1374.3
20°	1318.2	1323.5	1331.3	1348.2	1352.1
22.5°	1285.6	1290.9	1303.9	1319.5	1326.1
25°	1247.8	1258.3	1271.3	1292.2	1296.1
27.5°	1210.0	1219.1	1236.1	1258.3	1263.5
30°	1165.7	1180.0	1200.9	1223.1	1228.3
32.5°	1122.7	1137.0	1161.8	1185.2	1191.8
35°	1078.3	1091.4	1117.4	1144.8	1152.6
37.5°	1027.5	1044.4	1073.1	1100.5	1108.3
40°	974.0	994.9	1027.5	1056.2	1065.3
42.5°	923.2	945.3	977.9	1009.2	1019.6
45°	869.7	890.6	929.7	964.9	972.7
47.5°	814.9	838.4	880.1	915.3	928.4
50°	760.2	784.9	829.3	865.8	873.6
52.5°	705.4	731.5	778.4	817.5	821.5
55°	648.0	676.7	726.3	764.1	771.9
57.5°	595.9	620.7	674.1	713.2	722.4
60°	538.5	565.9	623.3	659.8	671.5
62.5°	483.7	512.4	572.4	608.9	619.4
65°	426.4	459.0	517.6	560.7	571.1
67.5°	376.8	408.1	470.7	512.4	522.9
70°	319.5	354.7	421.2	464.2	474.6
72.5°	269.9	306.4	372.9	414.6	430.3
75°	216.4	258.2	324.7	369.0	379.4
77.5°	164.3	212.5	280.3	314.2	314.2
80°	117.4	168.2	230.8	246.4	249.0
82.5°	76.9	126.5	170.8	169.5	169.5
85°	44.3	82.1	101.7	99.1	99.1
87.5°	17.0	33.9	36.5	36.5	35.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)