

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: P309502

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-HRP-CA08-W2A-U-3500K**

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: P309502
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: 24FCZ2-50HE-UNV-L82765-HRP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 3405.0 lumens
Efficiency: N/A
Efficacy: 88.2 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

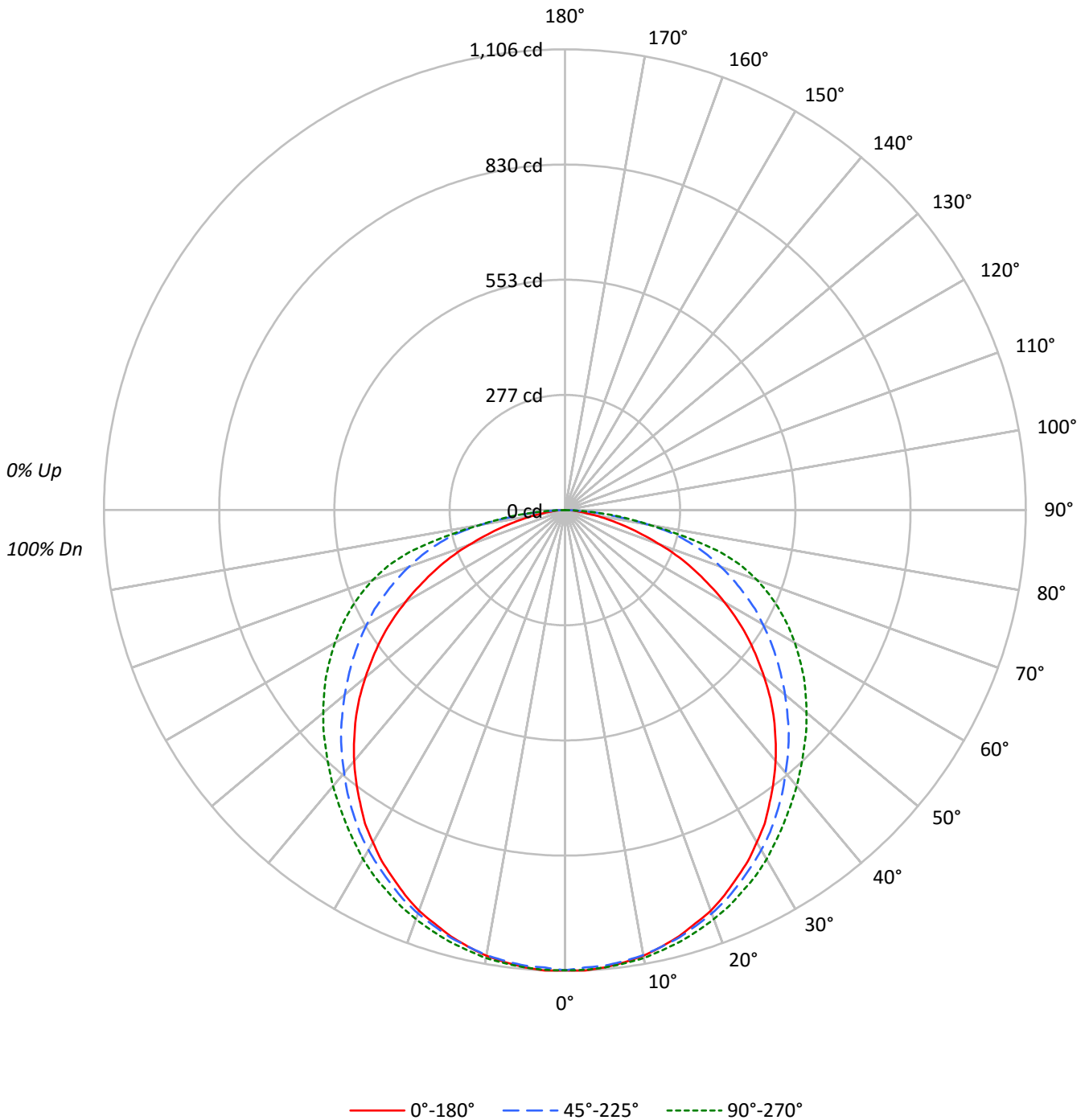
Input Watts (W): 38.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1486	1486	1486
5°	1488	1482	1488
10°	1484	1482	1492
15°	1475	1479	1493
20°	1465	1476	1496
25°	1447	1469	1498
30°	1431	1464	1504
35°	1407	1456	1506
40°	1382	1447	1520
45°	1351	1446	1543
50°	1307	1444	1584
55°	1261	1455	1642
60°	1189	1477	1715
65°	1098	1511	1811
70°	959	1565	1929
75°	778	1645	1994
80°	574	1612	1612
85°	440	1189	1343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.7	3.1
10°-20°	300.5	8.8
20°-30°	457.5	13.4
30°-40°	555.5	16.3
40°-50°	586.9	17.2
50°-60°	553.8	16.3
60°-70°	460.5	13.5
70°-80°	303.0	8.9
80°-90°	82.6	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°	862.7	25.3
0°-40°	1418.2	41.7
0°-60°	2559.0	75.2
0°-90°	3405.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3405.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1105	1105	1105	1105	1105	
5°	1102	1102	1098	1102	1102	105
15°	1059	1061	1062	1072	1072	299
25°	975	981	989	1006	1009	450
35°	857	867	887	910	917	536
45°	710	724	760	797	811	547
55°	537	560	620	678	700	479
65°	345	385	475	544	569	341
75°	150	218	316	375	384	161
85°	28	63	77	86	87	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1104.8	1104.8	1104.8	1104.8	1104.8
2.5°	1106.2	1104.8	1099.1	1104.8	1104.8
5°	1101.9	1101.9	1097.6	1101.9	1101.9
7.5°	1094.8	1094.8	1091.9	1097.6	1097.6
10°	1086.2	1086.2	1084.8	1091.9	1091.9
12.5°	1073.4	1074.8	1073.4	1081.9	1081.9
15°	1059.1	1060.6	1062.0	1072.0	1072.0
17.5°	1040.6	1043.5	1046.3	1057.7	1059.1
20°	1023.5	1024.9	1030.6	1043.5	1044.9
22.5°	1000.7	1005.0	1012.1	1024.9	1029.2
25°	975.0	980.7	989.3	1006.4	1009.2
27.5°	950.8	955.1	966.5	985.0	990.7
30°	920.9	928.0	942.2	960.8	967.9
32.5°	892.4	899.5	916.6	936.5	942.2
35°	856.7	866.7	886.7	909.5	916.6
37.5°	822.5	832.5	856.7	882.4	890.9
40°	786.9	798.3	823.9	853.9	865.3
42.5°	748.4	764.1	792.6	825.4	838.2
45°	709.9	724.1	759.8	796.8	811.1
47.5°	668.6	685.7	724.1	768.3	785.4
50°	624.4	645.7	689.9	738.4	756.9
52.5°	580.2	604.4	654.3	708.5	728.4
55°	537.4	560.2	620.1	678.5	699.9
57.5°	490.4	518.9	584.5	647.2	668.6
60°	441.9	473.3	548.8	614.4	637.2
62.5°	393.4	429.1	514.6	580.2	604.4
65°	345.0	384.9	474.7	544.5	568.8
67.5°	297.9	342.1	437.6	507.5	531.7
70°	243.8	299.4	397.7	466.1	490.4
72.5°	193.9	258.0	359.2	423.4	444.8
75°	149.7	218.1	316.5	374.9	383.5
77.5°	109.8	178.2	272.3	292.2	293.7
80°	74.1	142.5	208.1	205.3	208.1
82.5°	48.5	106.9	131.1	146.8	148.3
85°	28.5	62.7	77.0	85.5	87.0
87.5°	14.3	21.4	27.1	28.5	31.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)