

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: P309463

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-6500K**

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: P309463
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-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 6500K 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: 3285.0 lumens
Efficiency: N/A
Efficacy: 83.6 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

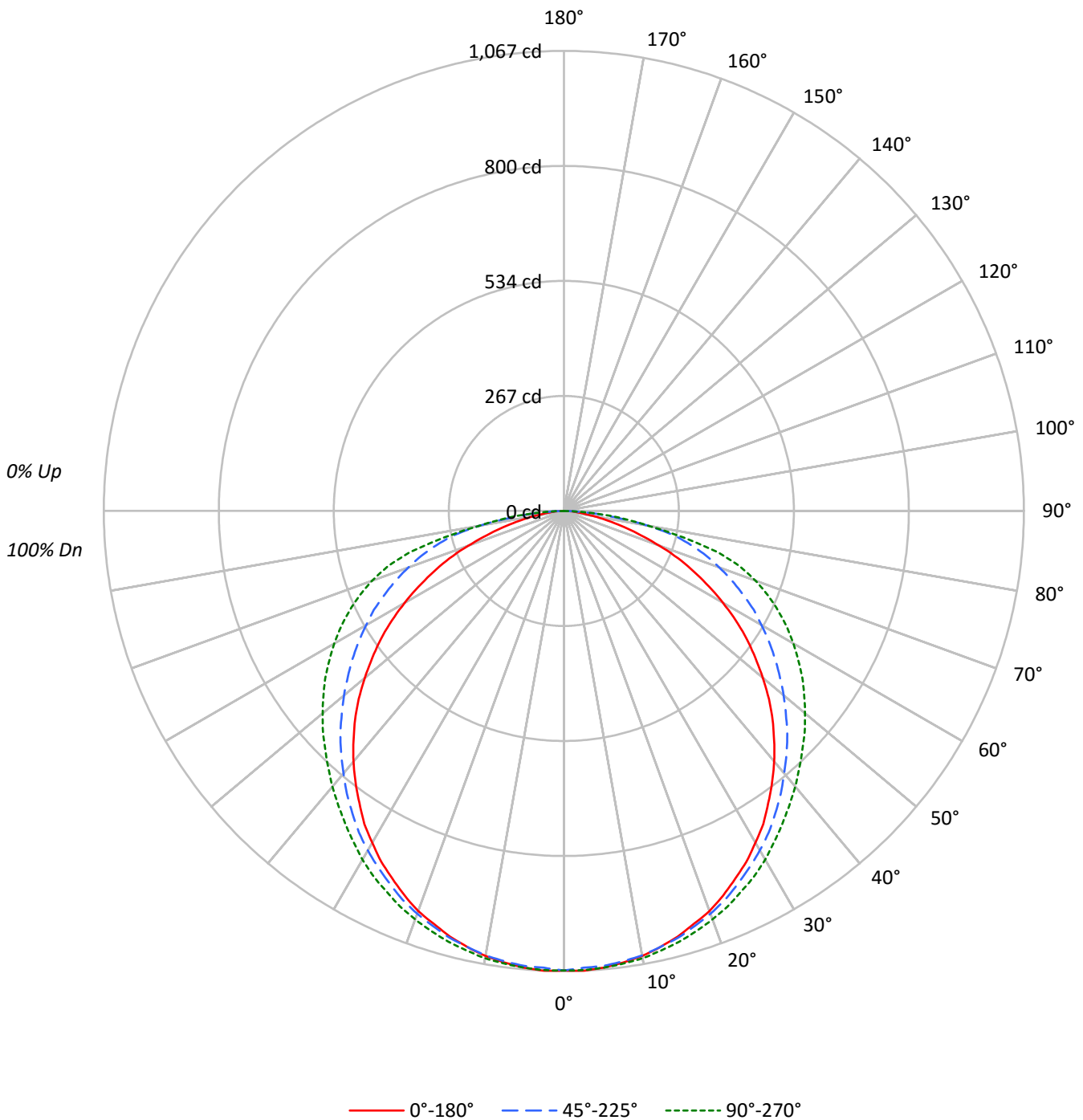
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1434	1434	1434
5°	1436	1430	1436
10°	1432	1430	1439
15°	1423	1427	1441
20°	1414	1424	1443
25°	1397	1417	1446
30°	1380	1412	1451
35°	1358	1405	1452
40°	1333	1396	1466
45°	1303	1395	1489
50°	1261	1393	1529
55°	1216	1403	1584
60°	1147	1425	1654
65°	1060	1458	1747
70°	925	1509	1861
75°	751	1587	1923
80°	554	1556	1556
85°	425	1147	1295



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.0	3.1
10°-20°	289.9	8.8
20°-30°	441.4	13.4
30°-40°	536.0	16.3
40°-50°	566.2	17.2
50°-60°	534.3	16.3
60°-70°	444.3	13.5
70°-80°	292.3	8.9
80°-90°	79.7	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°	832.3	25.3
0°-40°	1368.2	41.7
0°-60°	2468.8	75.2
0°-90°	3285.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3285.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1066	1066	1066	1066	1066	
5°	1063	1063	1059	1063	1063	101
15°	1022	1023	1025	1034	1034	288
25°	941	946	954	971	974	434
35°	826	836	855	877	884	517
45°	685	699	733	769	782	527
55°	518	540	598	655	675	462
65°	333	371	458	525	549	329
75°	144	210	305	362	370	156
85°	28	60	74	82	84	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1065.8	1065.8	1065.8	1065.8	1065.8
2.5°	1067.2	1065.8	1060.3	1065.8	1065.8
5°	1063.1	1063.1	1058.9	1063.1	1063.1
7.5°	1056.2	1056.2	1053.4	1058.9	1058.9
10°	1047.9	1047.9	1046.6	1053.4	1053.4
12.5°	1035.6	1036.9	1035.6	1043.8	1043.8
15°	1021.8	1023.2	1024.6	1034.2	1034.2
17.5°	1003.9	1006.7	1009.4	1020.4	1021.8
20°	987.4	988.8	994.3	1006.7	1008.1
22.5°	965.4	969.6	976.4	988.8	992.9
25°	940.7	946.2	954.4	970.9	973.7
27.5°	917.3	921.4	932.4	950.3	955.8
30°	888.4	895.3	909.0	926.9	933.8
32.5°	860.9	867.8	884.3	903.5	909.0
35°	826.5	836.2	855.4	877.4	884.3
37.5°	793.5	803.1	826.5	851.3	859.5
40°	759.1	770.1	794.9	823.8	834.8
42.5°	722.0	737.1	764.6	796.3	808.6
45°	684.9	698.6	733.0	768.8	782.5
47.5°	645.0	661.5	698.6	741.3	757.8
50°	602.4	623.0	665.6	712.4	730.3
52.5°	559.7	583.1	631.2	683.5	702.8
55°	518.5	540.5	598.2	654.6	675.2
57.5°	473.1	500.6	563.9	624.4	645.0
60°	426.3	456.6	529.5	592.7	614.7
62.5°	379.6	414.0	496.5	559.7	583.1
65°	332.8	371.3	458.0	525.3	548.7
67.5°	287.4	330.1	422.2	489.6	513.0
70°	235.2	288.8	383.7	449.7	473.1
72.5°	187.0	248.9	346.6	408.5	429.1
75°	144.4	210.4	305.3	361.7	369.9
77.5°	105.9	171.9	262.7	281.9	283.3
80°	71.5	137.5	200.8	198.0	200.8
82.5°	46.8	103.1	126.5	141.7	143.0
85°	27.5	60.5	74.3	82.5	83.9
87.5°	13.8	20.6	26.1	27.5	30.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)