

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: P309456

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-3000K**

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: P309456
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-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3000K 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: 2968.0 lumens
Efficiency: N/A
Efficacy: 79.6 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

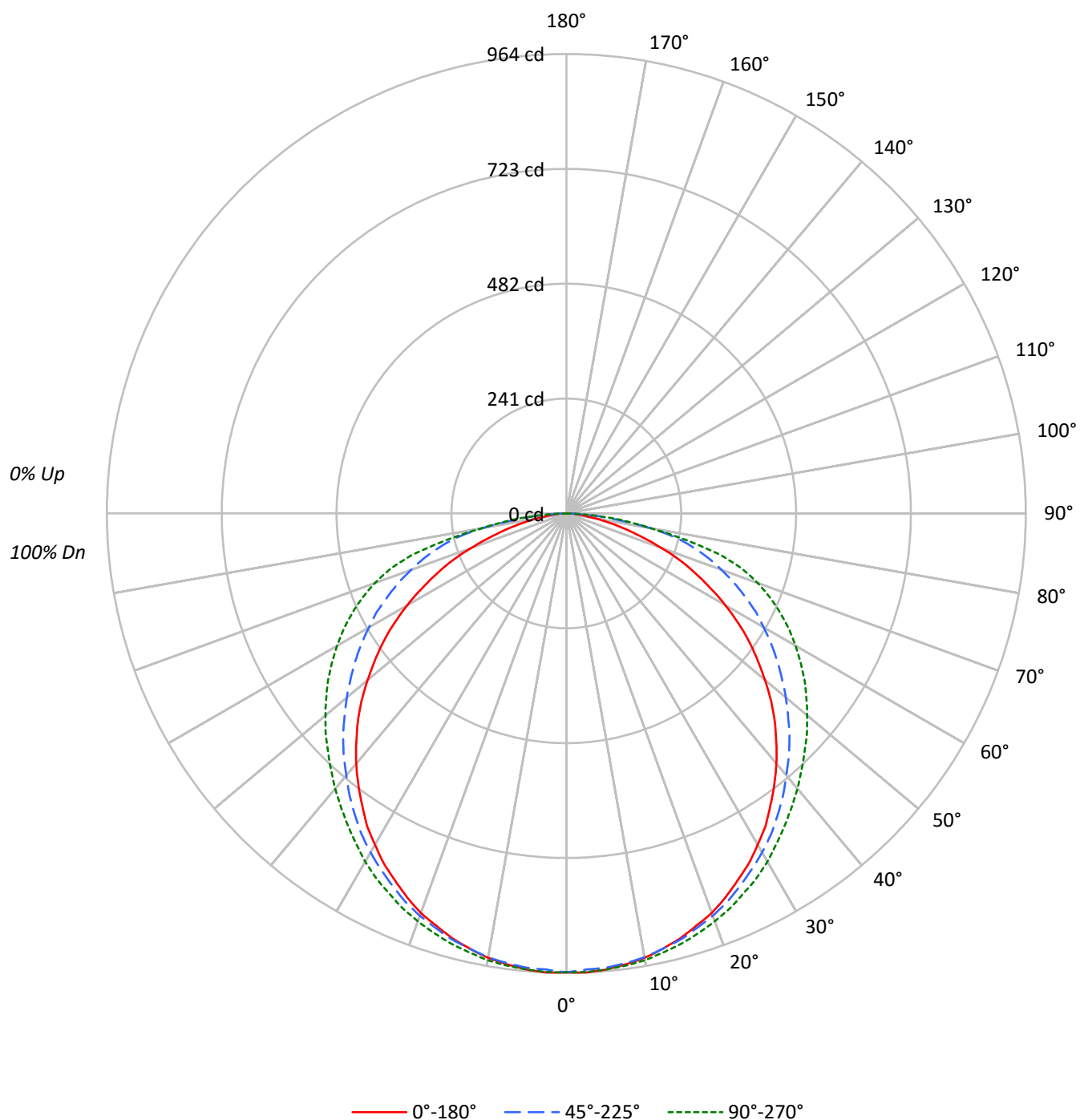
Input Watts (W): 37.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1296	1296	1296
5°	1297	1292	1297
10°	1294	1292	1300
15°	1286	1289	1302
20°	1277	1286	1304
25°	1262	1280	1306
30°	1247	1276	1311
35°	1227	1270	1312
40°	1205	1261	1325
45°	1177	1260	1345
50°	1139	1259	1381
55°	1099	1268	1431
60°	1037	1287	1495
65°	957	1317	1578
70°	836	1364	1681
75°	678	1434	1737
80°	501	1406	1406
85°	384	1036	1170



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.2	3.1
10°-20°	262.0	8.8
20°-30°	398.8	13.4
30°-40°	484.2	16.3
40°-50°	511.6	17.2
50°-60°	482.7	16.3
60°-70°	401.4	13.5
70°-80°	264.1	8.9
80°-90°	72.0	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°	752.0	25.3
0°-40°	1236.2	41.7
0°-60°	2230.5	75.2
0°-90°	2968.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2968.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	963	963	963	963	963	
5°	960	960	957	960	960	91
15°	923	924	926	934	934	260
25°	850	855	862	877	880	392
35°	747	756	773	793	799	467
45°	619	631	662	695	707	477
55°	468	488	540	591	610	417
65°	301	336	414	475	496	297
75°	130	190	276	327	334	141
85°	25	55	67	75	76	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	963.0	963.0	963.0	963.0	963.0
2.5°	964.2	963.0	958.0	963.0	963.0
5°	960.5	960.5	956.8	960.5	960.5
7.5°	954.3	954.3	951.8	956.8	956.8
10°	946.8	946.8	945.6	951.8	951.8
12.5°	935.6	936.9	935.6	943.1	943.1
15°	923.2	924.5	925.7	934.4	934.4
17.5°	907.1	909.5	912.0	922.0	923.2
20°	892.1	893.4	898.4	909.5	910.8
22.5°	872.3	876.0	882.2	893.4	897.1
25°	849.9	854.9	862.3	877.2	879.7
27.5°	828.8	832.5	842.4	858.6	863.6
30°	802.7	808.9	821.3	837.5	843.7
32.5°	777.8	784.0	799.0	816.3	821.3
35°	746.8	755.5	772.9	792.7	799.0
37.5°	716.9	725.6	746.8	769.1	776.6
40°	685.9	695.8	718.2	744.3	754.2
42.5°	652.3	666.0	690.9	719.4	730.6
45°	618.8	631.2	662.3	694.6	707.0
47.5°	582.8	597.7	631.2	669.7	684.6
50°	544.2	562.9	601.4	643.6	659.8
52.5°	505.7	526.8	570.3	617.5	634.9
55°	468.4	488.3	540.5	591.4	610.1
57.5°	427.4	452.3	509.4	564.1	582.8
60°	385.2	412.5	478.4	535.5	555.4
62.5°	342.9	374.0	448.6	505.7	526.8
65°	300.7	335.5	413.8	474.7	495.8
67.5°	259.7	298.2	381.5	442.3	463.5
70°	212.5	260.9	346.7	406.3	427.4
72.5°	169.0	224.9	313.1	369.0	387.7
75°	130.5	190.1	275.8	326.8	334.2
77.5°	95.7	155.3	237.3	254.7	256.0
80°	64.6	124.3	181.4	178.9	181.4
82.5°	42.2	93.2	114.3	128.0	129.2
85°	24.9	54.7	67.1	74.6	75.8
87.5°	12.4	18.6	23.6	24.9	27.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)