

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: P313216

Luminaire Tested: **24FCZ2-45-UNV-L83050-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: P313216
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-L83050-HRP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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

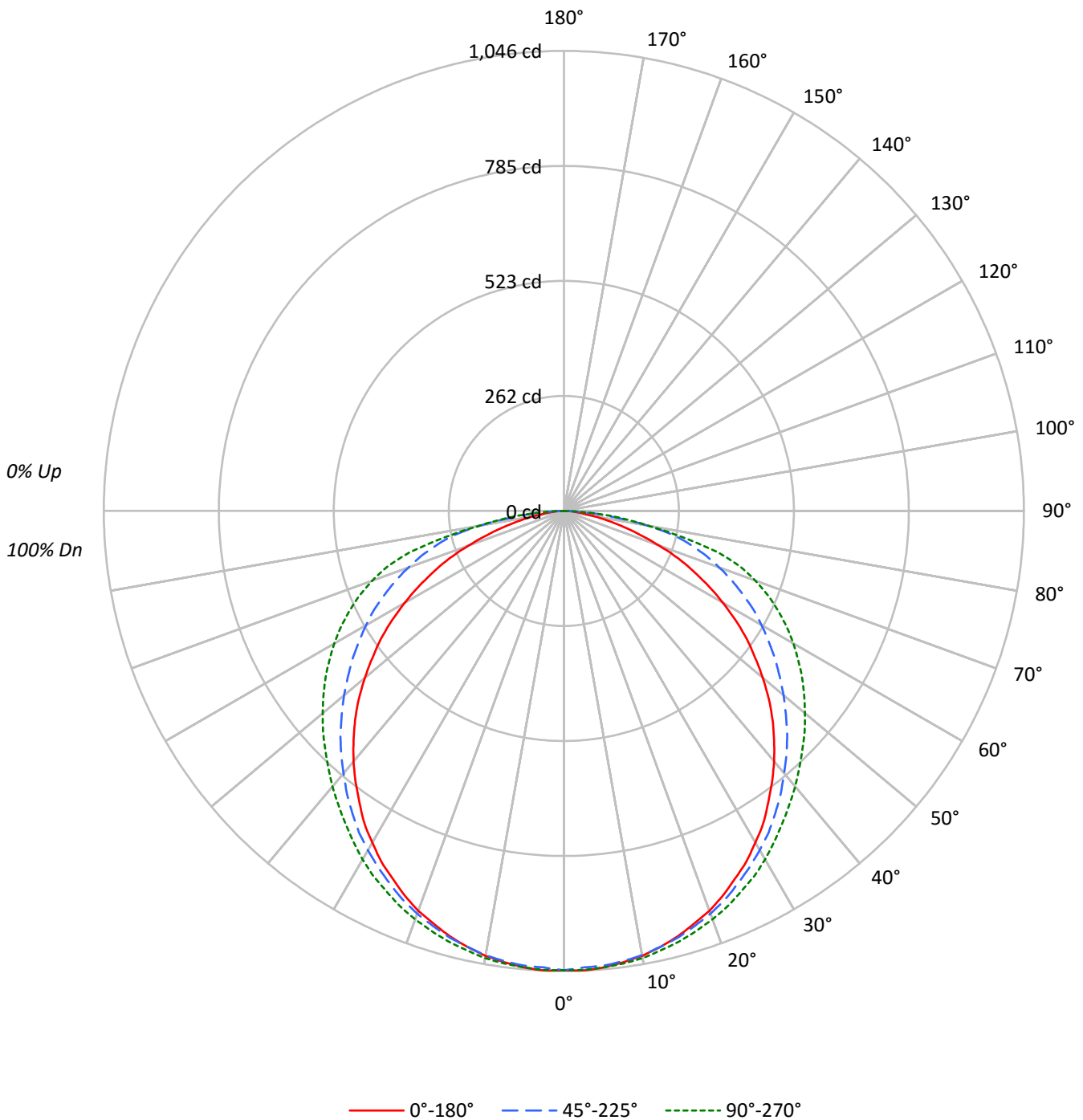
Lumens per Lamp: N/A
Luminaire Lumens: 3219.0 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 37.6
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°	1405	1405	1405
5°	1407	1402	1407
10°	1403	1401	1410
15°	1395	1399	1412
20°	1385	1395	1414
25°	1368	1388	1416
30°	1353	1384	1422
35°	1330	1377	1423
40°	1307	1368	1437
45°	1277	1367	1459
50°	1236	1365	1498
55°	1192	1375	1552
60°	1124	1396	1621
65°	1038	1429	1712
70°	906	1479	1824
75°	736	1555	1884
80°	543	1525	1525
85°	417	1124	1269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.9	3.1
10°-20°	284.1	8.8
20°-30°	432.5	13.4
30°-40°	525.2	16.3
40°-50°	554.9	17.2
50°-60°	523.6	16.3
60°-70°	435.3	13.5
70°-80°	286.4	8.9
80°-90°	78.1	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°	815.6	25.3
0°-40°	1340.8	41.7
0°-60°	2419.2	75.2
0°-90°	3219.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3219.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1044	1044	1044	1044	1044	
5°	1042	1042	1038	1042	1042	99
15°	1001	1003	1004	1013	1013	282
25°	922	927	935	951	954	425
35°	810	819	838	860	866	507
45°	671	685	718	753	767	517
55°	508	530	586	642	662	453
65°	326	364	449	515	538	322
75°	142	206	299	354	362	152
85°	27	59	73	81	82	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1044.4	1044.4	1044.4	1044.4	1044.4
2.5°	1045.8	1044.4	1039.0	1044.4	1044.4
5°	1041.7	1041.7	1037.7	1041.7	1041.7
7.5°	1035.0	1035.0	1032.3	1037.7	1037.7
10°	1026.9	1026.9	1025.5	1032.3	1032.3
12.5°	1014.8	1016.1	1014.8	1022.8	1022.8
15°	1001.3	1002.6	1004.0	1013.4	1013.4
17.5°	983.8	986.5	989.2	999.9	1001.3
20°	967.6	968.9	974.3	986.5	987.8
22.5°	946.0	950.1	956.8	968.9	973.0
25°	921.8	927.2	935.2	951.4	954.1
27.5°	898.9	902.9	913.7	931.2	936.6
30°	870.6	877.3	890.8	908.3	915.0
32.5°	843.6	850.3	866.5	885.4	890.8
35°	809.9	819.4	838.2	859.8	866.5
37.5°	777.6	787.0	809.9	834.2	842.3
40°	743.9	754.7	778.9	807.2	818.0
42.5°	707.5	722.3	749.3	780.3	792.4
45°	671.1	684.6	718.3	753.3	766.8
47.5°	632.0	648.2	684.6	726.4	742.5
50°	590.3	610.5	652.2	698.1	715.6
52.5°	548.5	571.4	618.6	669.8	688.6
55°	508.1	529.6	586.2	641.5	661.7
57.5°	463.6	490.5	552.5	611.8	632.0
60°	417.8	447.4	518.8	580.8	602.4
62.5°	371.9	405.6	486.5	548.5	571.4
65°	326.1	363.9	448.8	514.8	537.7
67.5°	281.7	323.4	413.7	479.8	502.7
70°	230.4	283.0	376.0	440.7	463.6
72.5°	183.3	243.9	339.6	400.2	420.5
75°	141.5	206.2	299.2	354.4	362.5
77.5°	103.8	168.5	257.4	276.3	277.6
80°	70.1	134.8	196.8	194.1	196.8
82.5°	45.8	101.1	124.0	138.8	140.2
85°	27.0	59.3	72.8	80.9	82.2
87.5°	13.5	20.2	25.6	27.0	29.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)