

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: P313191

Luminaire Tested: **24FCZ2-45HE-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: P313191
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: 24FCZ2-45HE-UNV-L83050-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: 3185.0 lumens
Efficiency: N/A
Efficacy: 94.2 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

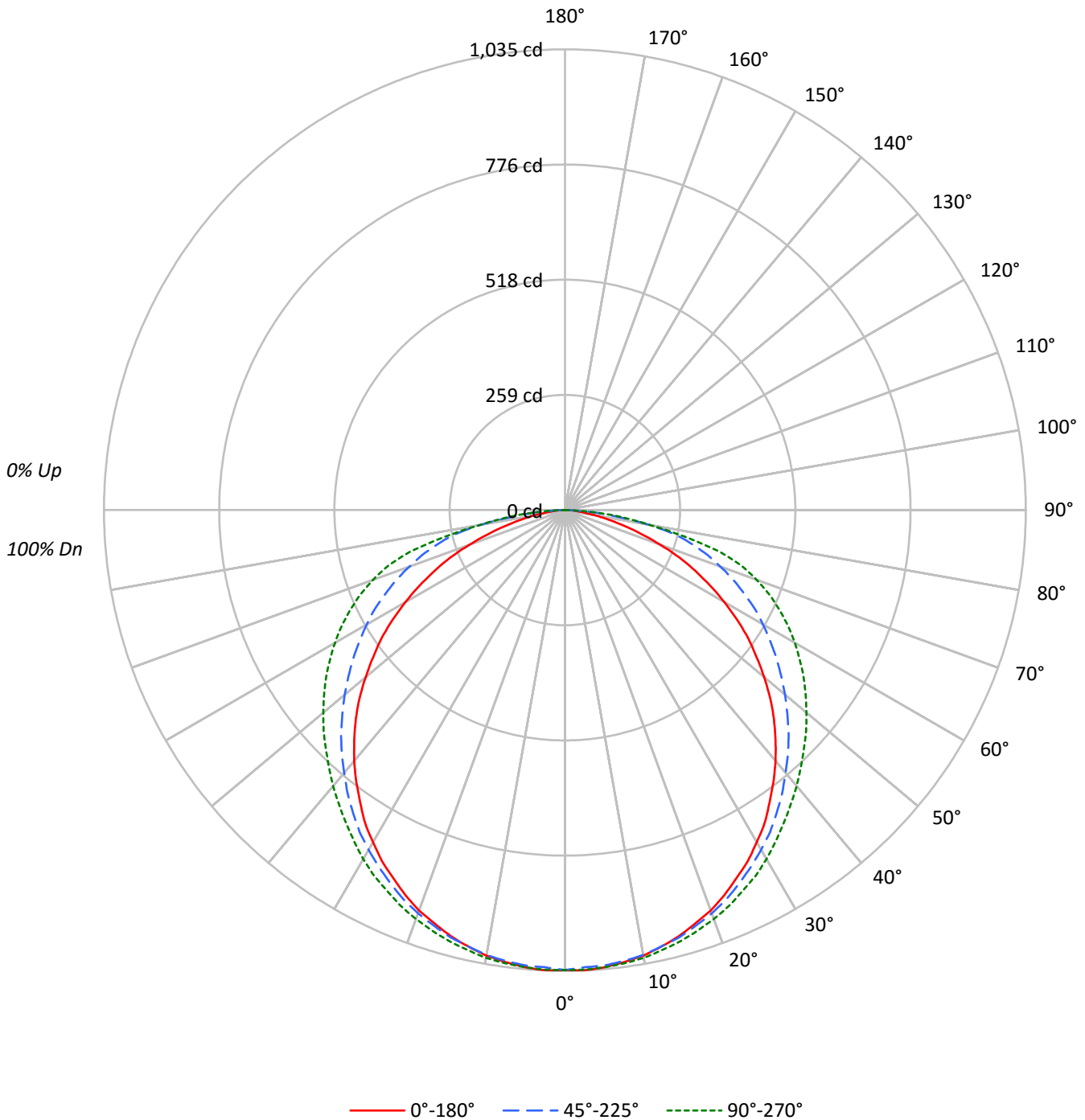
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1390	1390	1390
5°	1392	1387	1392
10°	1388	1386	1395
15°	1380	1384	1397
20°	1371	1380	1399
25°	1354	1374	1401
30°	1338	1369	1407
35°	1316	1362	1408
40°	1293	1354	1422
45°	1263	1352	1444
50°	1222	1351	1482
55°	1179	1361	1536
60°	1112	1382	1604
65°	1027	1414	1694
70°	897	1463	1805
75°	728	1539	1865
80°	537	1509	1509
85°	412	1112	1255



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.9	3.1
10°-20°	281.1	8.8
20°-30°	428.0	13.4
30°-40°	519.7	16.3
40°-50°	549.0	17.2
50°-60°	518.1	16.3
60°-70°	430.7	13.5
70°-80°	283.4	8.9
80°-90°	77.2	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°	807.0	25.3
0°-40°	1326.6	41.7
0°-60°	2393.7	75.2
0°-90°	3185.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3185.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1033	1033	1033	1033	1033	
5°	1031	1031	1027	1031	1031	98
15°	991	992	993	1003	1003	279
25°	912	917	925	941	944	421
35°	801	811	829	851	857	502
45°	664	677	711	745	759	511
55°	503	524	580	635	655	448
65°	323	360	444	509	532	319
75°	140	204	296	351	359	151
85°	27	59	72	80	81	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1033.4	1033.4	1033.4	1033.4	1033.4
2.5°	1034.7	1033.4	1028.0	1033.4	1033.4
5°	1030.7	1030.7	1026.7	1030.7	1030.7
7.5°	1024.0	1024.0	1021.4	1026.7	1026.7
10°	1016.0	1016.0	1014.7	1021.4	1021.4
12.5°	1004.0	1005.4	1004.0	1012.0	1012.0
15°	990.7	992.0	993.4	1002.7	1002.7
17.5°	973.4	976.0	978.7	989.4	990.7
20°	957.4	958.7	964.0	976.0	977.4
22.5°	936.0	940.0	946.7	958.7	962.7
25°	912.0	917.4	925.4	941.4	944.0
27.5°	889.4	893.4	904.0	921.4	926.7
30°	861.4	868.0	881.4	898.7	905.4
32.5°	834.7	841.4	857.4	876.0	881.4
35°	801.4	810.7	829.4	850.7	857.4
37.5°	769.4	778.7	801.4	825.4	833.4
40°	736.0	746.7	770.7	798.7	809.4
42.5°	700.0	714.7	741.4	772.0	784.0
45°	664.0	677.4	710.7	745.4	758.7
47.5°	625.4	641.4	677.4	718.7	734.7
50°	584.0	604.0	645.4	690.7	708.0
52.5°	542.7	565.4	612.0	662.7	681.4
55°	502.7	524.0	580.0	634.7	654.7
57.5°	458.7	485.4	546.7	605.4	625.4
60°	413.4	442.7	513.4	574.7	596.0
62.5°	368.0	401.3	481.4	542.7	565.4
65°	322.7	360.0	444.0	509.4	532.0
67.5°	278.7	320.0	409.4	474.7	497.4
70°	228.0	280.0	372.0	436.0	458.7
72.5°	181.3	241.3	336.0	396.0	416.0
75°	140.0	204.0	296.0	350.7	358.7
77.5°	102.7	166.7	254.7	273.3	274.7
80°	69.3	133.3	194.7	192.0	194.7
82.5°	45.3	100.0	122.7	137.3	138.7
85°	26.7	58.7	72.0	80.0	81.3
87.5°	13.3	20.0	25.3	26.7	29.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)