

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: P309452

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP250-W2A-U-5500K**

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: P309452
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-L82765-HRP-CP250-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 5500K 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: 3002.0 lumens
Efficiency: N/A
Efficacy: 86.5 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

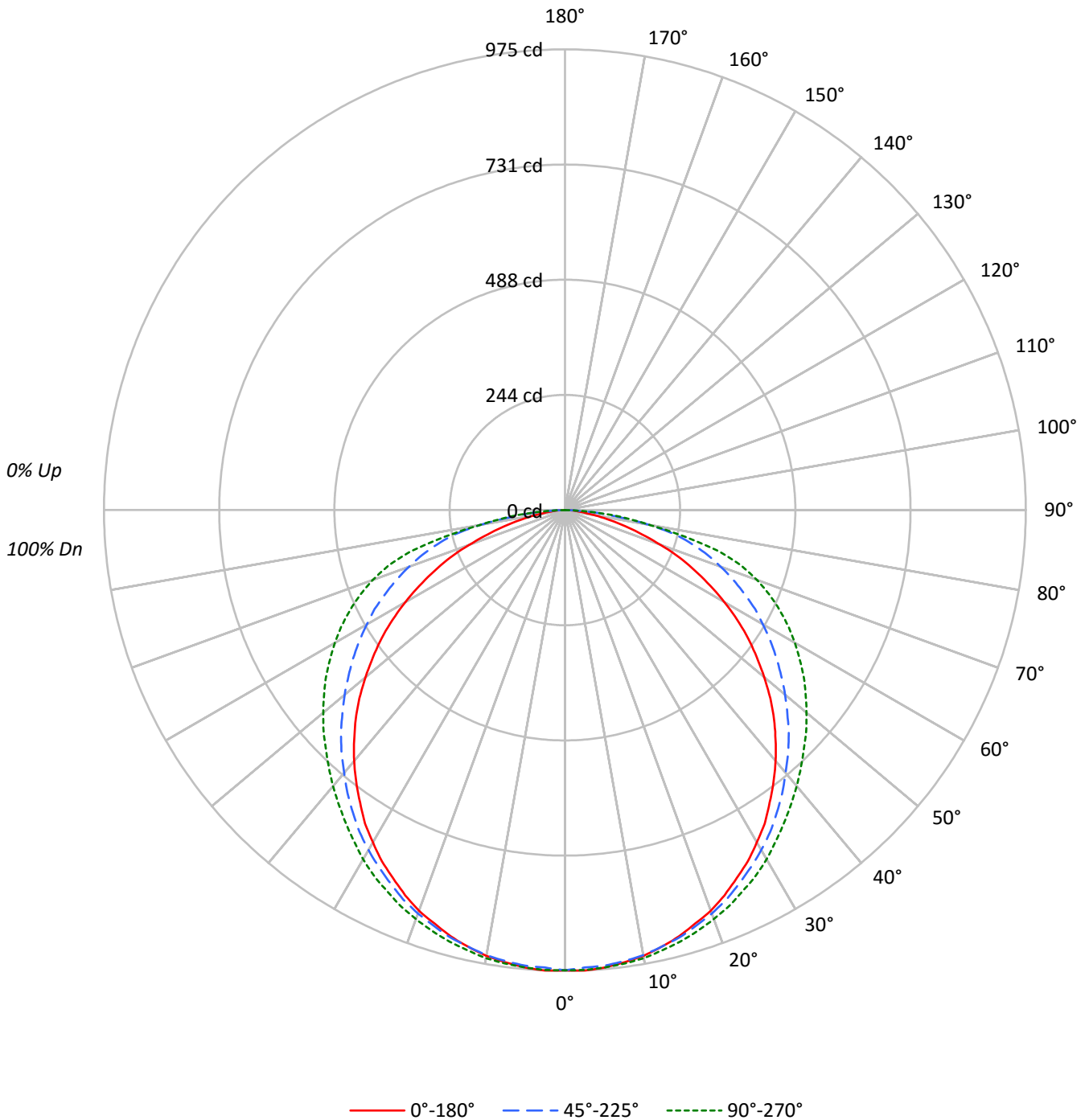
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1311	1311	1311
5°	1312	1307	1312
10°	1308	1307	1315
15°	1301	1304	1316
20°	1292	1301	1319
25°	1276	1295	1321
30°	1261	1291	1326
35°	1241	1284	1327
40°	1218	1276	1340
45°	1191	1275	1361
50°	1152	1273	1397
55°	1111	1282	1448
60°	1048	1302	1512
65°	968	1332	1597
70°	845	1379	1701
75°	686	1450	1758
80°	507	1422	1422
85°	387	1048	1184



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.3	3.1
10°-20°	265.0	8.8
20°-30°	403.4	13.4
30°-40°	489.8	16.3
40°-50°	517.5	17.2
50°-60°	488.3	16.3
60°-70°	406.0	13.5
70°-80°	267.1	8.9
80°-90°	72.8	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°	760.6	25.3
0°-40°	1250.4	41.7
0°-60°	2256.1	75.2
0°-90°	3002.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3002.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	974	974	974	974	974	
5°	972	972	968	972	972	92
15°	934	935	936	945	945	263
25°	860	865	872	887	890	397
35°	755	764	782	802	808	473
45°	626	638	670	702	715	482
55°	474	494	547	598	617	422
65°	304	339	418	480	502	301
75°	132	192	279	330	338	142
85°	25	55	68	75	77	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	974.0	974.0	974.0	974.0	974.0
2.5°	975.3	974.0	969.0	974.0	974.0
5°	971.5	971.5	967.7	971.5	971.5
7.5°	965.2	965.2	962.7	967.7	967.7
10°	957.7	957.7	956.4	962.7	962.7
12.5°	946.4	947.6	946.4	953.9	953.9
15°	933.8	935.0	936.3	945.1	945.1
17.5°	917.4	920.0	922.5	932.5	933.8
20°	902.4	903.6	908.6	920.0	921.2
22.5°	882.3	886.0	892.3	903.6	907.4
25°	859.6	864.7	872.2	887.3	889.8
27.5°	838.3	842.0	852.1	868.4	873.5
30°	811.9	818.2	830.7	847.1	853.4
32.5°	786.7	793.0	808.1	825.7	830.7
35°	755.3	764.1	781.7	801.8	808.1
37.5°	725.2	734.0	755.3	777.9	785.5
40°	693.7	703.8	726.4	752.8	762.9
42.5°	659.8	673.6	698.8	727.7	739.0
45°	625.9	638.4	669.9	702.5	715.1
47.5°	589.4	604.5	638.4	677.4	692.5
50°	550.5	569.3	608.3	651.0	667.3
52.5°	511.5	532.9	576.9	624.6	642.2
55°	473.8	493.9	546.7	598.2	617.1
57.5°	432.3	457.5	515.3	570.6	589.4
60°	389.6	417.2	483.9	541.7	561.8
62.5°	346.9	378.3	453.7	511.5	532.9
65°	304.1	339.3	418.5	480.1	501.5
67.5°	262.7	301.6	385.8	447.4	468.8
70°	214.9	263.9	350.6	411.0	432.3
72.5°	170.9	227.5	316.7	373.3	392.1
75°	132.0	192.3	279.0	330.5	338.1
77.5°	96.8	157.1	240.0	257.6	258.9
80°	65.4	125.7	183.5	181.0	183.5
82.5°	42.7	94.3	115.6	129.4	130.7
85°	25.1	55.3	67.9	75.4	76.7
87.5°	12.6	18.9	23.9	25.1	27.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)