

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: P309412

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-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: P309412
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-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: 3038.0 lumens
Efficiency: N/A
Efficacy: 89.4 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

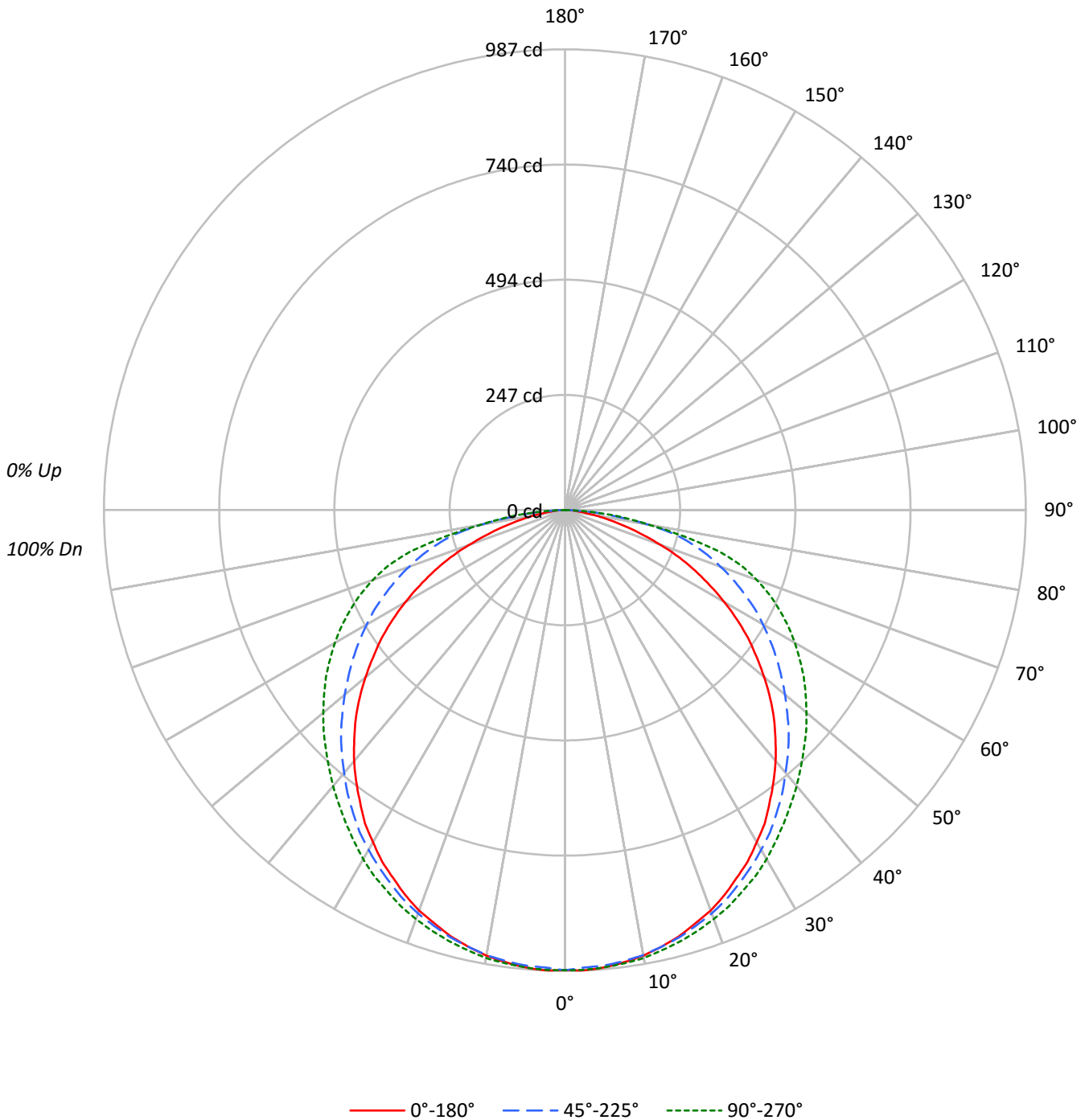
Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309412

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-HRP-CA08-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P309412

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-HRP-CA08-W2A-U-3500K

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°	1326	1326	1326
5°	1328	1323	1328
10°	1324	1322	1331
15°	1316	1320	1332
20°	1308	1317	1335
25°	1291	1310	1337
30°	1276	1306	1342
35°	1256	1299	1343
40°	1233	1291	1356
45°	1205	1290	1377
50°	1166	1289	1414
55°	1125	1298	1465
60°	1061	1318	1530
65°	980	1348	1616
70°	856	1396	1721
75°	694	1468	1778
80°	512	1439	1439
85°	392	1061	1198



TEST NUMBER: P309412

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-HRP-CA08-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.4	3.1
10°-20°	268.1	8.8
20°-30°	408.2	13.4
30°-40°	495.7	16.3
40°-50°	523.7	17.2
50°-60°	494.1	16.3
60°-70°	410.8	13.5
70°-80°	270.3	8.9
80°-90°	73.7	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°	769.7	25.3
0°-40°	1265.4	41.7
0°-60°	2283.2	75.2
0°-90°	3038.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3038.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	986	986	986	986	986	
5°	983	983	979	983	983	93
15°	945	946	948	956	956	267
25°	870	875	883	898	900	401
35°	764	773	791	811	818	479
45°	633	646	678	711	724	488
55°	480	500	553	605	624	427
65°	308	343	424	486	508	304
75°	134	195	282	334	342	144
85°	25	56	69	76	78	31
90°	0	0	0	0	0	



TEST NUMBER: P309412

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-HRP-CA08-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	985.7	985.7	985.7	985.7	985.7
2.5°	987.0	985.7	980.6	985.7	985.7
5°	983.1	983.1	979.3	983.1	983.1
7.5°	976.8	976.8	974.2	979.3	979.3
10°	969.1	969.1	967.9	974.2	974.2
12.5°	957.7	959.0	957.7	965.3	965.3
15°	945.0	946.3	947.5	956.4	956.4
17.5°	928.4	931.0	933.5	943.7	945.0
20°	913.2	914.5	919.5	931.0	932.3
22.5°	892.8	896.7	903.0	914.5	918.3
25°	869.9	875.0	882.7	897.9	900.5
27.5°	848.3	852.1	862.3	878.8	883.9
30°	821.6	828.0	840.7	857.2	863.6
32.5°	796.2	802.5	817.8	835.6	840.7
35°	764.4	773.3	791.1	811.4	817.8
37.5°	733.9	742.8	764.4	787.3	794.9
40°	702.1	712.2	735.1	761.8	772.0
42.5°	667.7	681.7	707.1	736.4	747.8
45°	633.4	646.1	677.9	711.0	723.7
47.5°	596.5	611.8	646.1	685.5	700.8
50°	557.1	576.1	615.6	658.8	675.4
52.5°	517.6	539.3	583.8	632.1	649.9
55°	479.5	499.8	553.3	605.4	624.5
57.5°	437.5	463.0	521.5	577.4	596.5
60°	394.3	422.3	489.7	548.2	568.5
62.5°	351.0	382.8	459.1	517.6	539.3
65°	307.8	343.4	423.5	485.8	507.5
67.5°	265.8	305.2	390.5	452.8	474.4
70°	217.5	267.1	354.8	415.9	437.5
72.5°	173.0	230.2	320.5	377.7	396.8
75°	133.5	194.6	282.4	334.5	342.1
77.5°	97.9	159.0	242.9	260.7	262.0
80°	66.1	127.2	185.7	183.1	185.7
82.5°	43.2	95.4	117.0	131.0	132.3
85°	25.4	56.0	68.7	76.3	77.6
87.5°	12.7	19.1	24.2	25.4	28.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)