

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: P309449

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP250-W2A-U-4000K**

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: P309449
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 4000K 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: 2882.0 lumens
Efficiency: N/A
Efficacy: 84.3 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

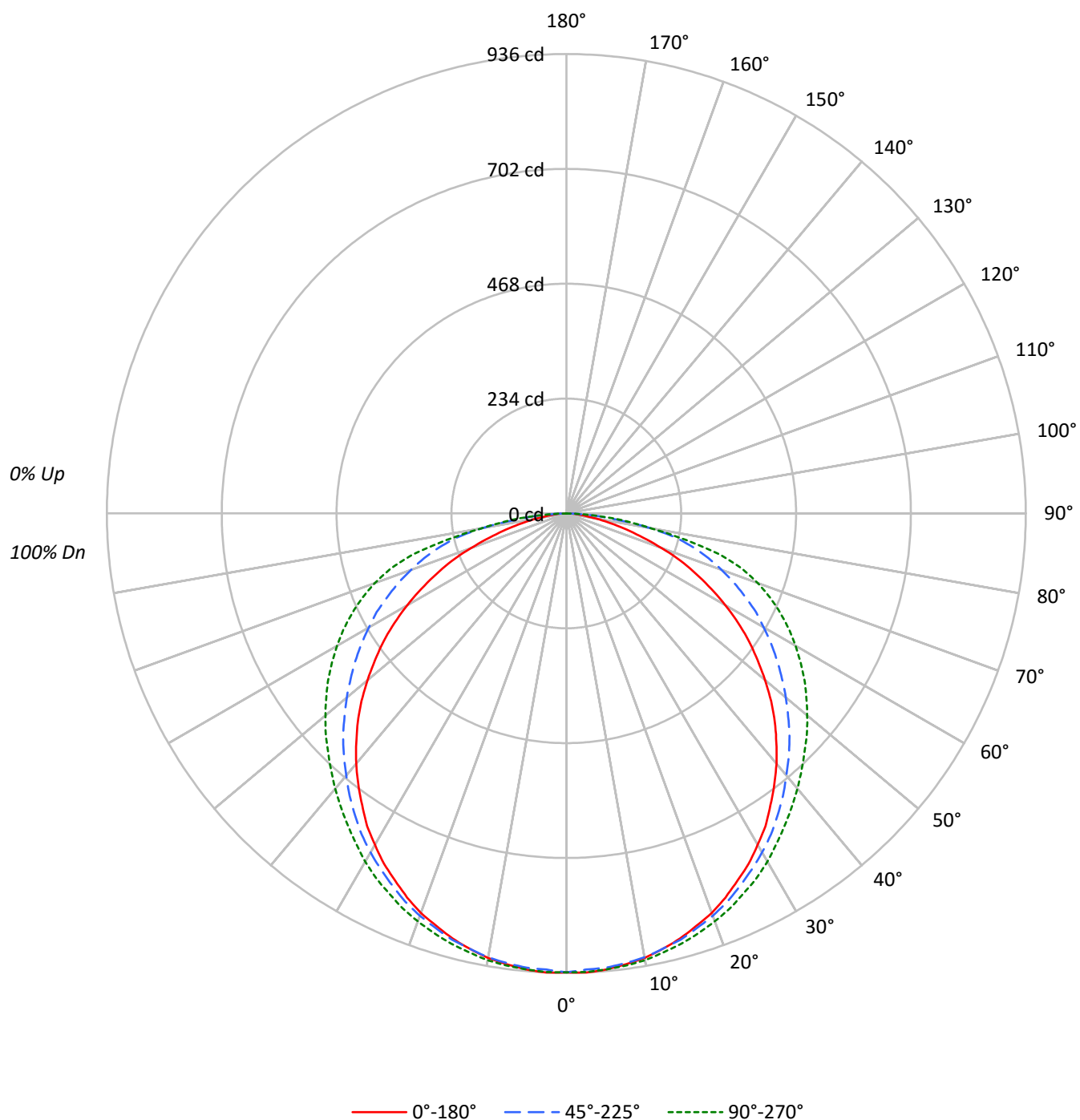
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1258	1258	1258
5°	1260	1255	1260
10°	1256	1254	1263
15°	1249	1252	1264
20°	1240	1249	1266
25°	1225	1243	1268
30°	1211	1239	1273
35°	1191	1233	1274
40°	1170	1225	1286
45°	1143	1224	1306
50°	1106	1222	1341
55°	1067	1231	1390
60°	1006	1250	1451
65°	930	1279	1533
70°	812	1324	1633
75°	659	1393	1687
80°	486	1365	1365
85°	372	1007	1136



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.6	3.1
10°-20°	254.4	8.8
20°-30°	387.2	13.4
30°-40°	470.2	16.3
40°-50°	496.8	17.2
50°-60°	468.8	16.3
60°-70°	389.8	13.5
70°-80°	256.4	8.9
80°-90°	69.9	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°	730.2	25.3
0°-40°	1200.4	41.7
0°-60°	2165.9	75.2
0°-90°	2882.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2882.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	935	935	935	935	935	
5°	933	933	929	933	933	89
15°	896	898	899	907	907	253
25°	825	830	837	852	854	381
35°	725	734	750	770	776	454
45°	601	613	643	674	686	463
55°	455	474	525	574	592	405
65°	292	326	402	461	481	289
75°	127	185	268	317	325	136
85°	24	53	65	72	74	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	935.1	935.1	935.1	935.1	935.1
2.5°	936.3	935.1	930.2	935.1	935.1
5°	932.7	932.7	929.0	932.7	932.7
7.5°	926.6	926.6	924.2	929.0	929.0
10°	919.4	919.4	918.2	924.2	924.2
12.5°	908.5	909.7	908.5	915.8	915.8
15°	896.5	897.7	898.9	907.3	907.3
17.5°	880.8	883.2	885.6	895.3	896.5
20°	866.3	867.5	872.3	883.2	884.4
22.5°	847.0	850.6	856.6	867.5	871.1
25°	825.3	830.1	837.3	851.8	854.2
27.5°	804.8	808.4	818.0	833.7	838.5
30°	779.4	785.5	797.5	813.2	819.2
32.5°	755.3	761.3	775.8	792.7	797.5
35°	725.1	733.6	750.5	769.8	775.8
37.5°	696.2	704.6	725.1	746.8	754.1
40°	666.0	675.7	697.4	722.7	732.4
42.5°	633.4	646.7	670.8	698.6	709.4
45°	600.9	612.9	643.1	674.5	686.5
47.5°	565.9	580.3	612.9	650.3	664.8
50°	528.5	546.6	584.0	625.0	640.7
52.5°	491.1	511.6	553.8	599.6	616.5
55°	454.9	474.2	524.8	574.3	592.4
57.5°	415.0	439.2	494.7	547.8	565.9
60°	374.0	400.6	464.5	520.0	539.3
62.5°	333.0	363.2	435.6	491.1	511.6
65°	292.0	325.8	401.8	460.9	481.4
67.5°	252.2	289.6	370.4	429.5	450.0
70°	206.3	253.4	336.6	394.5	415.0
72.5°	164.1	218.4	304.0	358.3	376.4
75°	126.7	184.6	267.9	317.3	324.6
77.5°	92.9	150.8	230.4	247.3	248.5
80°	62.7	120.7	176.2	173.7	176.2
82.5°	41.0	90.5	111.0	124.3	125.5
85°	24.1	53.1	65.2	72.4	73.6
87.5°	12.1	18.1	22.9	24.1	26.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)