

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: P309450

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP250-W2A-U-4500K**

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: P309450
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 4500K 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: 2933.0 lumens
Efficiency: N/A
Efficacy: 85.3 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

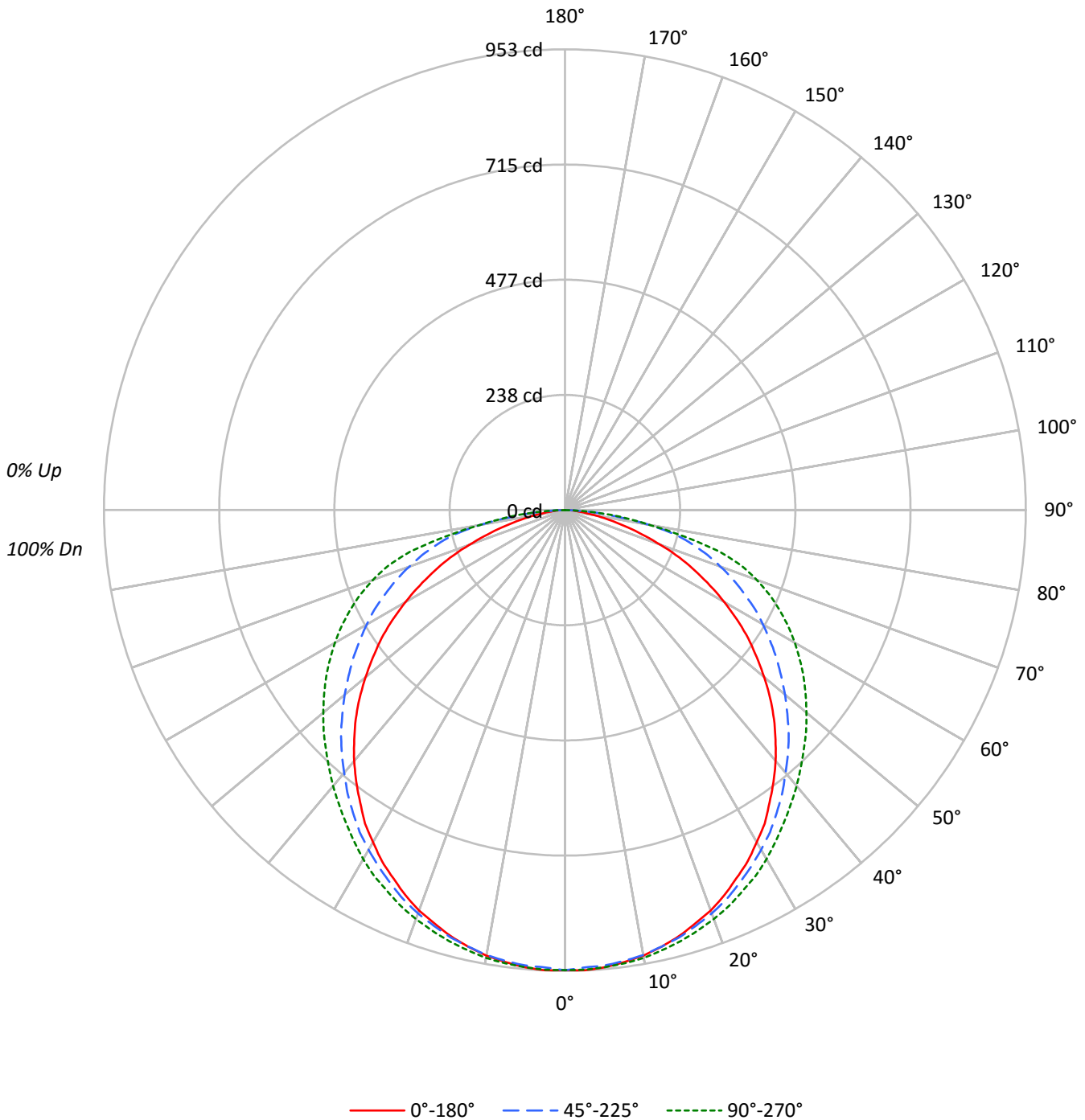
Input Watts (W): 34.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1280	1280	1280
5°	1282	1277	1282
10°	1278	1277	1285
15°	1271	1274	1286
20°	1262	1271	1289
25°	1247	1265	1291
30°	1232	1261	1295
35°	1212	1254	1297
40°	1190	1247	1309
45°	1164	1245	1329
50°	1126	1244	1365
55°	1086	1253	1414
60°	1024	1272	1477
65°	946	1302	1560
70°	826	1348	1662
75°	670	1417	1717
80°	495	1389	1389
85°	380	1024	1156



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.1	3.1
10°-20°	258.9	8.8
20°-30°	394.1	13.4
30°-40°	478.5	16.3
40°-50°	505.6	17.2
50°-60°	477.1	16.3
60°-70°	396.7	13.5
70°-80°	261.0	8.9
80°-90°	71.1	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°	743.1	25.3
0°-40°	1221.7	41.7
0°-60°	2204.3	75.2
0°-90°	2933.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2933.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	952	952	952	952	952	
5°	949	949	946	949	949	90
15°	912	914	915	923	923	257
25°	840	845	852	867	869	387
35°	738	747	764	783	790	462
45°	612	624	654	686	699	471
55°	463	483	534	584	603	412
65°	297	332	409	469	490	294
75°	129	188	273	323	330	139
85°	25	54	66	74	75	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	951.6	951.6	951.6	951.6	951.6
2.5°	952.8	951.6	946.7	951.6	951.6
5°	949.2	949.2	945.5	949.2	949.2
7.5°	943.0	943.0	940.6	945.5	945.5
10°	935.7	935.7	934.4	940.6	940.6
12.5°	924.6	925.8	924.6	932.0	932.0
15°	912.3	913.5	914.8	923.4	923.4
17.5°	896.4	898.8	901.3	911.1	912.3
20°	881.6	882.9	887.8	898.8	900.0
22.5°	862.0	865.7	871.8	882.9	886.5
25°	839.9	844.8	852.2	866.9	869.3
27.5°	819.0	822.7	832.5	848.5	853.4
30°	793.2	799.4	811.6	827.6	833.7
32.5°	768.7	774.8	789.5	806.7	811.6
35°	738.0	746.6	763.7	783.4	789.5
37.5°	708.5	717.1	738.0	760.1	767.4
40°	677.8	687.6	709.7	735.5	745.3
42.5°	644.6	658.1	682.7	710.9	722.0
45°	611.5	623.8	654.5	686.4	698.7
47.5°	575.9	590.6	623.8	661.8	676.6
50°	537.8	556.2	594.3	636.0	652.0
52.5°	499.8	520.6	563.6	610.3	627.5
55°	462.9	482.6	534.1	584.5	602.9
57.5°	422.4	447.0	503.4	557.5	575.9
60°	380.6	407.7	472.7	529.2	548.9
62.5°	338.9	369.6	443.3	499.8	520.6
65°	297.1	331.5	408.9	469.1	489.9
67.5°	256.6	294.7	377.0	437.1	458.0
70°	210.0	257.9	342.6	401.5	422.4
72.5°	167.0	222.2	309.4	364.7	383.1
75°	128.9	187.9	272.6	322.9	330.3
77.5°	94.5	153.5	234.5	251.7	252.9
80°	63.9	122.8	179.3	176.8	179.3
82.5°	41.7	92.1	113.0	126.5	127.7
85°	24.6	54.0	66.3	73.7	74.9
87.5°	12.3	18.4	23.3	24.6	27.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)