

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: P309461

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CA08-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: P309461
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: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 3269.0 lumens
Efficiency: N/A
Efficacy: 84.5 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

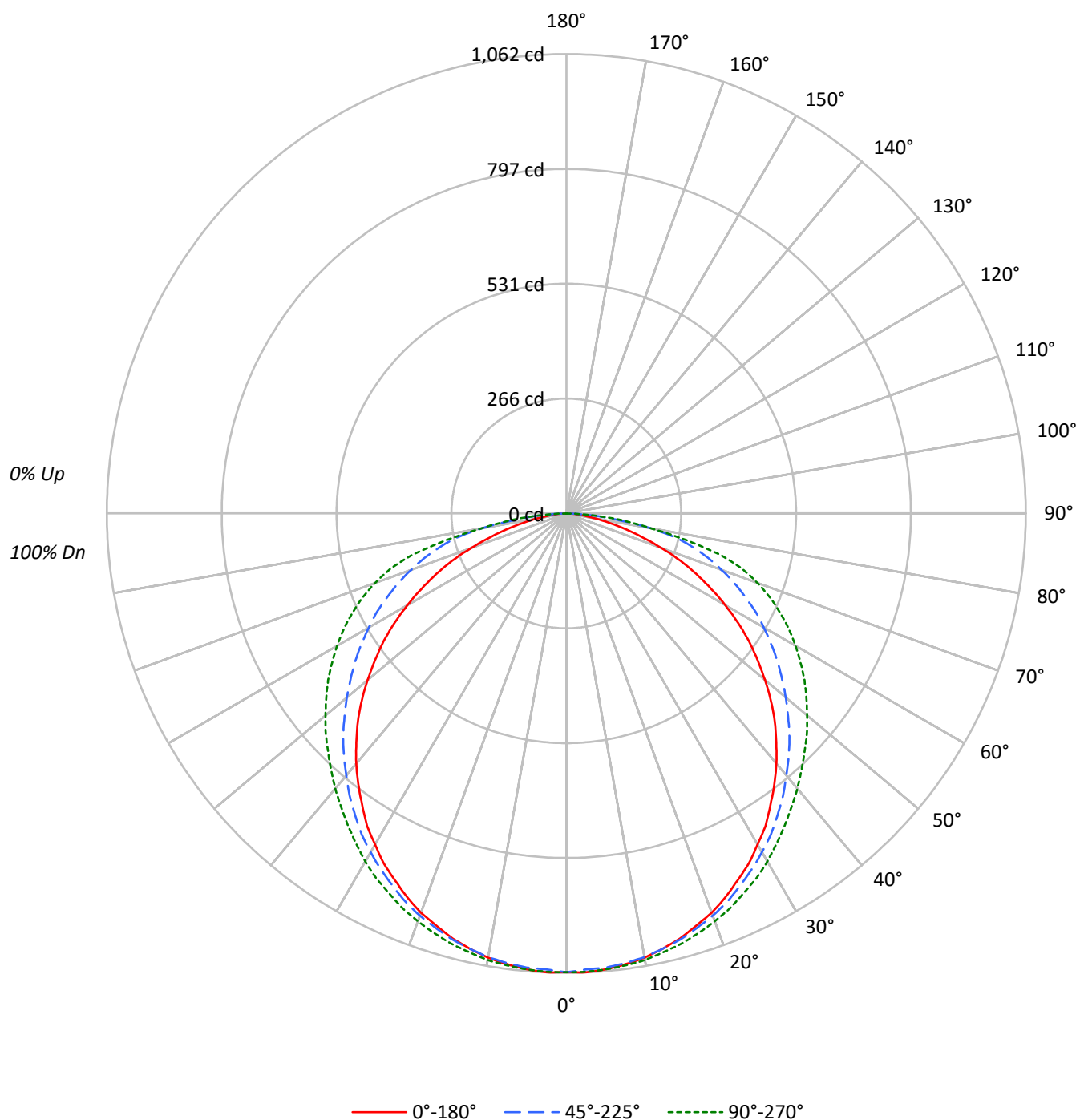
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1427	1427	1427
5°	1429	1423	1429
10°	1425	1423	1432
15°	1416	1420	1434
20°	1407	1417	1436
25°	1390	1410	1438
30°	1374	1405	1444
35°	1351	1398	1445
40°	1327	1389	1459
45°	1297	1388	1482
50°	1255	1387	1521
55°	1210	1396	1576
60°	1142	1418	1646
65°	1054	1451	1739
70°	921	1502	1852
75°	747	1579	1914
80°	552	1548	1548
85°	423	1141	1289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.5	3.1
10°-20°	288.5	8.8
20°-30°	439.2	13.4
30°-40°	533.3	16.3
40°-50°	563.5	17.2
50°-60°	531.7	16.3
60°-70°	442.1	13.5
70°-80°	290.9	8.9
80°-90°	79.3	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°	828.2	25.3
0°-40°	1361.6	41.7
0°-60°	2456.8	75.2
0°-90°	3269.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3269.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1061	1061	1061	1061	1061	
5°	1058	1058	1054	1058	1058	100
15°	1017	1018	1020	1029	1029	287
25°	936	942	950	966	969	432
35°	822	832	851	873	880	515
45°	682	695	729	765	779	525
55°	516	538	595	651	672	460
65°	331	370	456	523	546	327
75°	144	209	304	360	368	155
85°	27	60	74	82	84	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1062.0	1060.6	1055.2	1060.6	1060.6
5°	1057.9	1057.9	1053.8	1057.9	1057.9
7.5°	1051.0	1051.0	1048.3	1053.8	1053.8
10°	1042.8	1042.8	1041.5	1048.3	1048.3
12.5°	1030.5	1031.9	1030.5	1038.7	1038.7
15°	1016.8	1018.2	1019.6	1029.2	1029.2
17.5°	999.0	1001.8	1004.5	1015.5	1016.8
20°	982.6	984.0	989.5	1001.8	1003.2
22.5°	960.7	964.8	971.7	984.0	988.1
25°	936.1	941.6	949.8	966.2	968.9
27.5°	912.8	916.9	927.9	945.7	951.1
30°	884.1	890.9	904.6	922.4	929.2
32.5°	856.7	863.6	880.0	899.1	904.6
35°	822.5	832.1	851.2	873.1	880.0
37.5°	789.7	799.2	822.5	847.1	855.3
40°	755.4	766.4	791.0	819.8	830.7
42.5°	718.5	733.5	760.9	792.4	804.7
45°	681.5	695.2	729.4	765.0	778.7
47.5°	641.9	658.3	695.2	737.7	754.1
50°	599.4	620.0	662.4	708.9	726.7
52.5°	557.0	580.3	628.2	680.2	699.3
55°	515.9	537.8	595.3	651.4	672.0
57.5°	470.8	498.2	561.1	621.3	641.9
60°	424.3	454.4	526.9	589.8	611.7
62.5°	377.7	411.9	494.0	557.0	580.3
65°	331.2	369.5	455.7	522.8	546.1
67.5°	286.0	328.5	420.1	487.2	510.5
70°	234.0	287.4	381.8	447.5	470.8
72.5°	186.1	247.7	344.9	406.5	427.0
75°	143.7	209.4	303.8	359.9	368.1
77.5°	105.4	171.1	261.4	280.6	281.9
80°	71.2	136.9	199.8	197.1	199.8
82.5°	46.5	102.6	125.9	141.0	142.3
85°	27.4	60.2	73.9	82.1	83.5
87.5°	13.7	20.5	26.0	27.4	30.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)