

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: P309458

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CA08-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: P309458
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 3138.0 lumens
Efficiency: N/A
Efficacy: 82.6 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

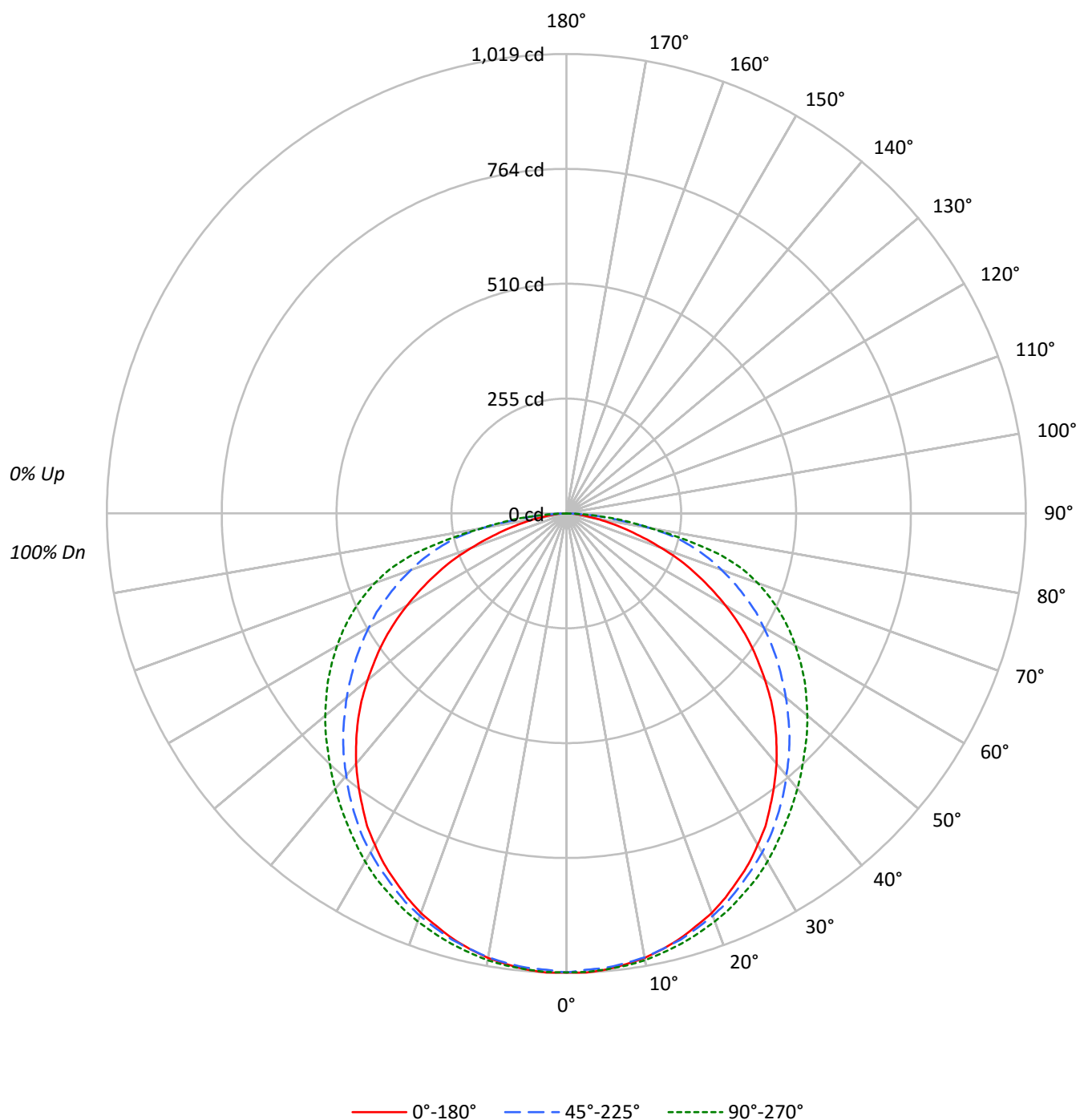
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1370	1370	1370
5°	1372	1366	1372
10°	1368	1366	1375
15°	1360	1363	1376
20°	1351	1360	1379
25°	1334	1353	1381
30°	1319	1349	1386
35°	1297	1342	1387
40°	1274	1334	1401
45°	1245	1332	1422
50°	1204	1331	1460
55°	1162	1341	1513
60°	1096	1361	1580
65°	1012	1393	1669
70°	884	1442	1778
75°	717	1516	1837
80°	529	1486	1486
85°	406	1095	1237



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.4	3.1
10°-20°	277.0	8.8
20°-30°	421.6	13.4
30°-40°	512.0	16.3
40°-50°	540.9	17.2
50°-60°	510.4	16.3
60°-70°	424.4	13.5
70°-80°	279.2	8.9
80°-90°	76.1	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°	795.1	25.3
0°-40°	1307.0	41.7
0°-60°	2358.3	75.2
0°-90°	3138.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3138.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1018	1018	1018	1018	1018	
5°	1016	1016	1012	1016	1016	96
15°	976	977	979	988	988	275
25°	899	904	912	928	930	414
35°	790	799	817	838	845	494
45°	654	667	700	734	748	504
55°	495	516	572	625	645	441
65°	318	355	438	502	524	314
75°	138	201	292	346	353	149
85°	26	58	71	79	80	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1018.1	1018.1	1018.1	1018.1	1018.1
2.5°	1019.4	1018.1	1012.9	1018.1	1018.1
5°	1015.5	1015.5	1011.6	1015.5	1015.5
7.5°	1008.9	1008.9	1006.3	1011.6	1011.6
10°	1001.0	1001.0	999.7	1006.3	1006.3
12.5°	989.2	990.5	989.2	997.1	997.1
15°	976.1	977.4	978.7	987.9	987.9
17.5°	959.0	961.6	964.3	974.8	976.1
20°	943.2	944.6	949.8	961.6	963.0
22.5°	922.2	926.2	932.7	944.6	948.5
25°	898.6	903.8	911.7	927.5	930.1
27.5°	876.2	880.2	890.7	907.8	913.0
30°	848.7	855.2	868.4	885.4	892.0
32.5°	822.4	829.0	844.7	863.1	868.4
35°	789.5	798.7	817.1	838.1	844.7
37.5°	758.0	767.2	789.5	813.2	821.1
40°	725.2	735.7	759.3	786.9	797.4
42.5°	689.7	704.1	730.4	760.6	772.5
45°	654.2	667.4	700.2	734.4	747.5
47.5°	616.1	631.9	667.4	708.1	723.9
50°	575.4	595.1	635.8	680.5	697.6
52.5°	534.7	557.0	603.0	652.9	671.3
55°	495.3	516.3	571.5	625.3	645.0
57.5°	451.9	478.2	538.6	596.4	616.1
60°	407.3	436.2	505.8	566.2	587.2
62.5°	362.6	395.4	474.2	534.7	557.0
65°	317.9	354.7	437.5	501.8	524.2
67.5°	274.6	315.3	403.3	467.7	490.0
70°	224.6	275.9	366.5	429.6	451.9
72.5°	178.7	237.8	331.1	390.2	409.9
75°	137.9	201.0	291.6	345.5	353.4
77.5°	101.2	164.2	250.9	269.3	270.6
80°	68.3	131.4	191.8	189.2	191.8
82.5°	44.7	98.5	120.9	135.3	136.6
85°	26.3	57.8	70.9	78.8	80.1
87.5°	13.1	19.7	25.0	26.3	28.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)