

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: P309323

Luminaire Tested: **24FCZ2-40HE-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: P309323
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: 24FCZ2-40HE-UNV-L82765-HRP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 2820.0 lumens
Efficiency: N/A
Efficacy: 91.6 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

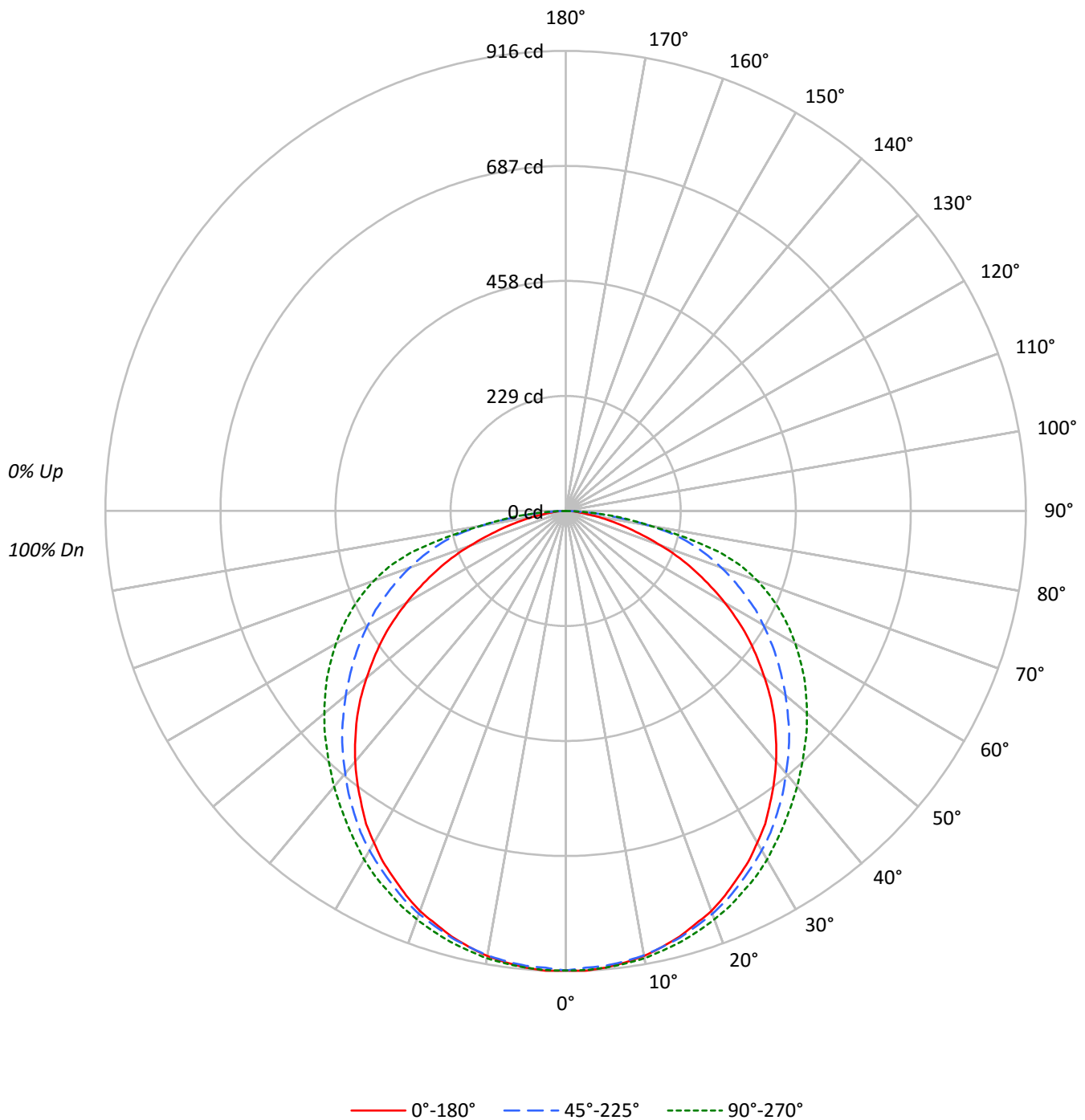
Input Watts (W): 30.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1231	1231	1231
5°	1233	1228	1233
10°	1229	1227	1235
15°	1222	1225	1237
20°	1214	1222	1239
25°	1199	1216	1241
30°	1185	1212	1245
35°	1165	1206	1247
40°	1145	1199	1259
45°	1119	1197	1278
50°	1082	1196	1312
55°	1044	1205	1360
60°	985	1223	1420
65°	910	1252	1500
70°	794	1296	1598
75°	645	1363	1651
80°	476	1336	1336
85°	364	985	1112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.7	3.1
10°-20°	248.9	8.8
20°-30°	378.9	13.4
30°-40°	460.1	16.3
40°-50°	486.1	17.2
50°-60°	458.7	16.3
60°-70°	381.4	13.5
70°-80°	250.9	8.9
80°-90°	68.4	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°	714.5	25.3
0°-40°	1174.6	41.7
0°-60°	2119.3	75.2
0°-90°	2820.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2820.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	915	915	915	915	915	
5°	913	913	909	913	913	87
15°	877	878	880	888	888	247
25°	808	812	819	834	836	372
35°	710	718	734	753	759	444
45°	588	600	629	660	672	453
55°	445	464	514	562	580	396
65°	286	319	393	451	471	282
75°	124	181	262	310	318	134
85°	24	52	64	71	72	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	915.0	915.0	915.0	915.0	915.0
2.5°	916.1	915.0	910.2	915.0	915.0
5°	912.6	912.6	909.0	912.6	912.6
7.5°	906.7	906.7	904.3	909.0	909.0
10°	899.6	899.6	898.4	904.3	904.3
12.5°	889.0	890.2	889.0	896.1	896.1
15°	877.2	878.4	879.5	887.8	887.8
17.5°	861.8	864.2	866.5	876.0	877.2
20°	847.7	848.8	853.6	864.2	865.4
22.5°	828.8	832.3	838.2	848.8	852.4
25°	807.5	812.2	819.3	833.5	835.9
27.5°	787.4	791.0	800.4	815.8	820.5
30°	762.7	768.6	780.4	795.7	801.6
32.5°	739.0	744.9	759.1	775.6	780.4
35°	709.5	717.8	734.3	753.2	759.1
37.5°	681.2	689.5	709.5	730.8	737.9
40°	651.7	661.1	682.4	707.2	716.6
42.5°	619.8	632.8	656.4	683.6	694.2
45°	587.9	599.7	629.3	659.9	671.8
47.5°	553.7	567.9	599.7	636.3	650.5
50°	517.1	534.8	571.4	611.5	626.9
52.5°	480.5	500.6	541.9	586.7	603.3
55°	445.1	464.0	513.6	562.0	579.7
57.5°	406.1	429.7	484.0	536.0	553.7
60°	366.0	392.0	454.5	508.8	527.7
62.5°	325.8	355.4	426.2	480.5	500.6
65°	285.7	318.8	393.1	451.0	471.1
67.5°	246.7	283.3	362.4	420.3	440.4
70°	201.9	247.9	329.4	386.1	406.1
72.5°	160.6	213.7	297.5	350.6	368.3
75°	124.0	180.6	262.1	310.5	317.6
77.5°	90.9	147.6	225.5	242.0	243.2
80°	61.4	118.1	172.4	170.0	172.4
82.5°	40.1	88.5	108.6	121.6	122.8
85°	23.6	51.9	63.8	70.8	72.0
87.5°	11.8	17.7	22.4	23.6	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)