

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: P309672

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP250-W2A-U-3000K**

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: P309672
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: 24FCZ2-60HE-UNV-L82765-HRP-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 3000K 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: 3666.0 lumens
Efficiency: N/A
Efficacy: 77.5 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

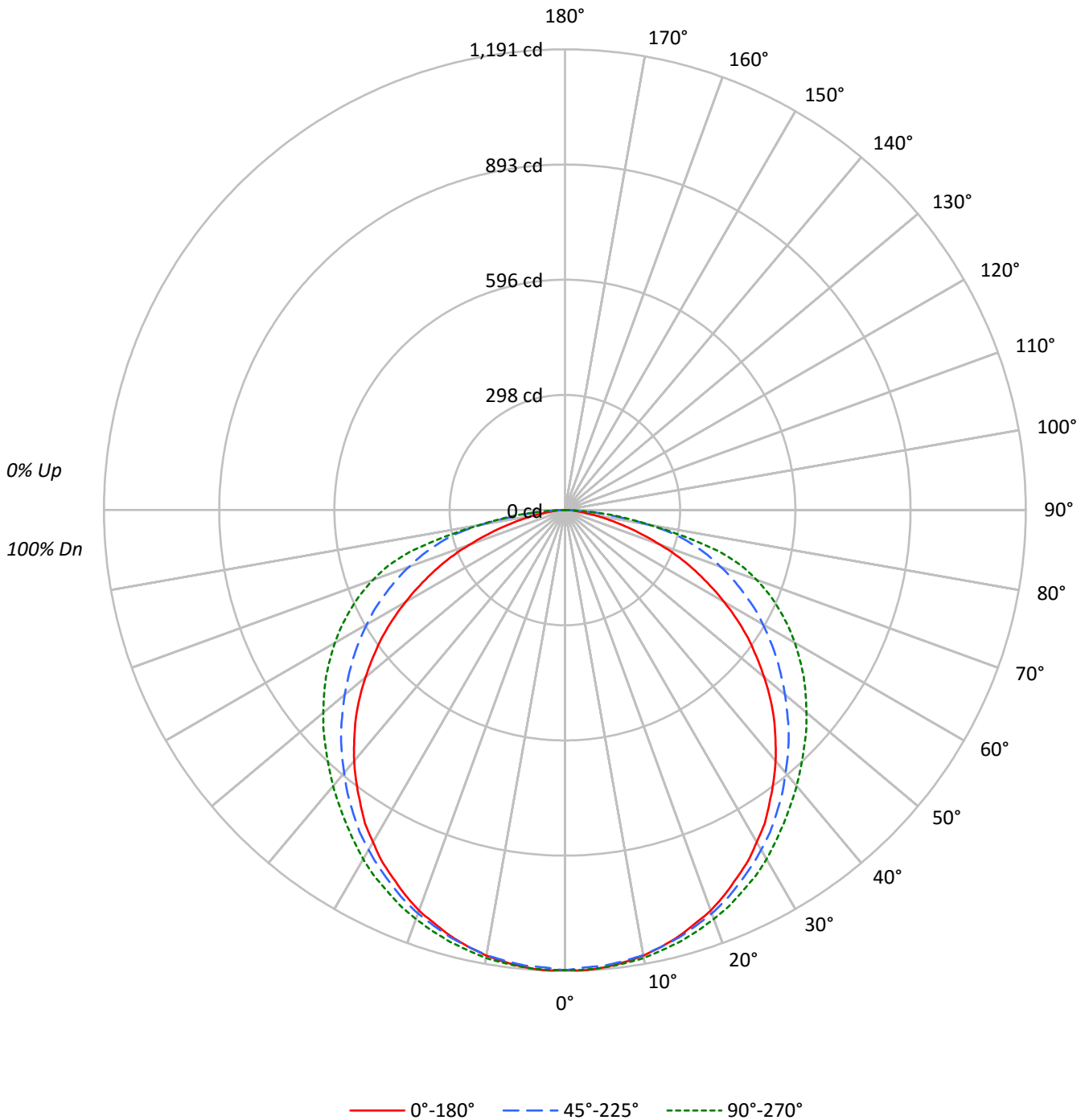
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1600	1600	1600
5°	1602	1596	1602
10°	1598	1596	1606
15°	1588	1593	1608
20°	1578	1589	1611
25°	1559	1581	1613
30°	1540	1576	1619
35°	1515	1568	1621
40°	1488	1558	1636
45°	1454	1556	1662
50°	1407	1555	1706
55°	1357	1566	1768
60°	1280	1590	1846
65°	1182	1627	1950
70°	1032	1685	2077
75°	837	1771	2146
80°	618	1736	1736
85°	474	1280	1445



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.7	3.1
10°-20°	323.6	8.8
20°-30°	492.6	13.4
30°-40°	598.1	16.3
40°-50°	631.9	17.2
50°-60°	596.3	16.3
60°-70°	495.8	13.5
70°-80°	326.2	8.9
80°-90°	88.9	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°	928.8	25.3
0°-40°	1526.9	41.7
0°-60°	2755.1	75.2
0°-90°	3666.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3666.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1189	1189	1189	1189	1189	
5°	1186	1186	1182	1186	1186	113
15°	1140	1142	1143	1154	1154	322
25°	1050	1056	1065	1084	1087	484
35°	922	933	955	979	987	577
45°	764	780	818	858	873	589
55°	579	603	668	730	754	515
65°	371	414	511	586	612	367
75°	161	235	341	404	413	174
85°	31	68	83	92	94	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1189.4	1189.4	1189.4	1189.4	1189.4
2.5°	1191.0	1189.4	1183.3	1189.4	1189.4
5°	1186.4	1186.4	1181.8	1186.4	1186.4
7.5°	1178.7	1178.7	1175.6	1181.8	1181.8
10°	1169.5	1169.5	1167.9	1175.6	1175.6
12.5°	1155.7	1157.2	1155.7	1164.9	1164.9
15°	1140.3	1141.9	1143.4	1154.1	1154.1
17.5°	1120.4	1123.4	1126.5	1138.8	1140.3
20°	1102.0	1103.5	1109.6	1123.4	1125.0
22.5°	1077.4	1082.0	1089.7	1103.5	1108.1
25°	1049.8	1055.9	1065.1	1083.5	1086.6
27.5°	1023.7	1028.3	1040.6	1060.5	1066.7
30°	991.5	999.1	1014.5	1034.4	1042.1
32.5°	960.8	968.4	986.8	1008.3	1014.5
35°	922.4	933.1	954.6	979.2	986.8
37.5°	885.6	896.3	922.4	950.0	959.2
40°	847.2	859.5	887.1	919.3	931.6
42.5°	805.7	822.6	853.3	888.6	902.4
45°	764.3	779.7	818.0	857.9	873.3
47.5°	719.8	738.2	779.7	827.2	845.7
50°	672.2	695.2	742.8	795.0	815.0
52.5°	624.6	650.7	704.5	762.8	784.3
55°	578.6	603.2	667.6	730.5	753.6
57.5°	528.0	558.7	629.3	696.8	719.8
60°	475.8	509.5	590.9	661.5	686.0
62.5°	423.6	462.0	554.0	624.6	650.7
65°	371.4	414.4	511.1	586.3	612.4
67.5°	320.8	368.3	471.2	546.4	572.5
70°	262.4	322.3	428.2	501.9	528.0
72.5°	208.7	277.8	386.8	455.8	478.8
75°	161.1	234.8	340.7	403.6	412.8
77.5°	118.2	191.8	293.1	314.6	316.2
80°	79.8	153.5	224.1	221.0	224.1
82.5°	52.2	115.1	141.2	158.1	159.6
85°	30.7	67.5	82.9	92.1	93.6
87.5°	15.3	23.0	29.2	30.7	33.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)