

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: P309713

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CP187-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: P309713
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: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 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: 4410.0 lumens
Efficiency: N/A
Efficacy: 81.5 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

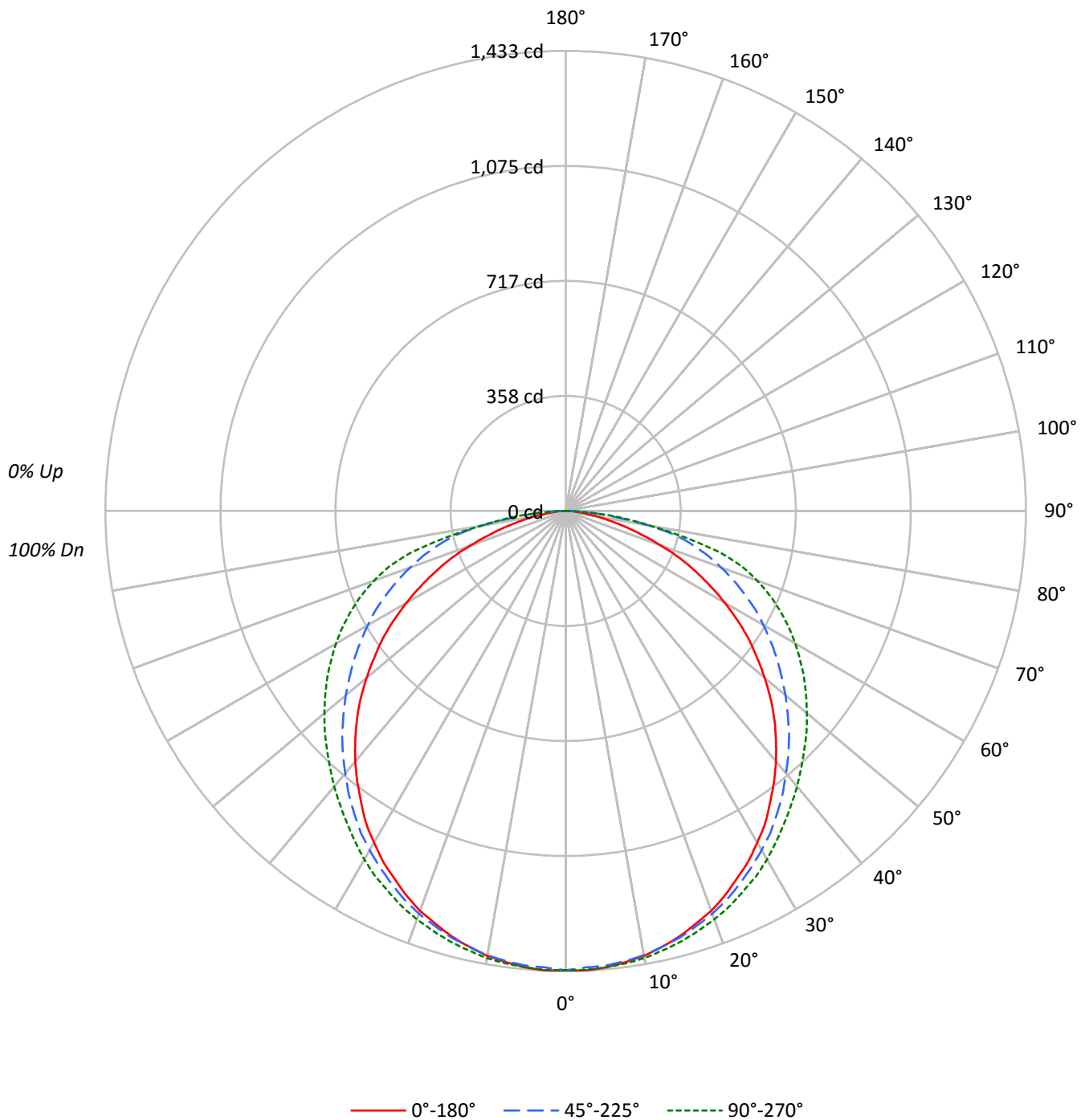
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1925	1925	1925
5°	1927	1920	1927
10°	1922	1920	1932
15°	1911	1916	1934
20°	1898	1911	1938
25°	1875	1902	1940
30°	1853	1896	1948
35°	1823	1886	1950
40°	1790	1874	1968
45°	1749	1872	1999
50°	1693	1870	2052
55°	1633	1884	2126
60°	1540	1913	2221
65°	1422	1957	2345
70°	1242	2026	2498
75°	1008	2131	2582
80°	744	2088	2088
85°	570	1539	1738



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.5	3.1
10°-20°	389.2	8.8
20°-30°	592.6	13.4
30°-40°	719.5	16.3
40°-50°	760.2	17.2
50°-60°	717.3	16.3
60°-70°	596.4	13.5
70°-80°	392.4	8.9
80°-90°	107.0	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°	1117.3	25.3
0°-40°	1836.8	41.7
0°-60°	3314.3	75.2
0°-90°	4410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4410.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1431	1431	1431	1431	1431	
5°	1427	1427	1422	1427	1427	136
15°	1372	1374	1375	1388	1388	387
25°	1263	1270	1281	1303	1307	583
35°	1110	1122	1148	1178	1187	695
45°	919	938	984	1032	1050	708
55°	696	726	803	879	906	620
65°	447	498	615	705	737	442
75°	194	282	410	486	497	209
85°	37	81	100	111	113	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1430.8	1430.8	1430.8	1430.8	1430.8
2.5°	1432.7	1430.8	1423.4	1430.8	1430.8
5°	1427.1	1427.1	1421.6	1427.1	1427.1
7.5°	1417.9	1417.9	1414.2	1421.6	1421.6
10°	1406.8	1406.8	1405.0	1414.2	1414.2
12.5°	1390.2	1392.1	1390.2	1401.3	1401.3
15°	1371.7	1373.6	1375.4	1388.4	1388.4
17.5°	1347.7	1351.4	1355.1	1369.9	1371.7
20°	1325.6	1327.4	1334.8	1351.4	1353.3
22.5°	1296.1	1301.6	1310.8	1327.4	1333.0
25°	1262.8	1270.2	1281.3	1303.4	1307.1
27.5°	1231.4	1237.0	1251.7	1275.7	1283.1
30°	1192.7	1201.9	1220.4	1244.4	1253.6
32.5°	1155.7	1165.0	1187.1	1213.0	1220.4
35°	1109.6	1122.5	1148.4	1177.9	1187.1
37.5°	1065.3	1078.2	1109.6	1142.8	1153.9
40°	1019.1	1033.9	1067.1	1105.9	1120.7
42.5°	969.3	989.6	1026.5	1069.0	1085.6
45°	919.4	937.9	984.0	1032.0	1050.5
47.5°	865.9	888.0	937.9	995.1	1017.3
50°	808.6	836.3	893.6	956.3	980.3
52.5°	751.4	782.8	847.4	917.6	943.4
55°	696.0	725.6	803.1	878.8	906.5
57.5°	635.1	672.0	757.0	838.2	865.9
60°	572.3	612.9	710.8	795.7	825.3
62.5°	509.6	555.7	666.5	751.4	782.8
65°	446.8	498.5	614.8	705.3	736.6
67.5°	385.9	443.1	566.8	657.3	688.6
70°	315.7	387.7	515.1	603.7	635.1
72.5°	251.1	334.2	465.2	548.3	576.0
75°	193.9	282.5	409.9	485.6	496.6
77.5°	142.2	230.8	352.6	378.5	380.3
80°	96.0	184.6	269.5	265.9	269.5
82.5°	62.8	138.5	169.9	190.2	192.0
85°	36.9	81.2	99.7	110.8	112.6
87.5°	18.5	27.7	35.1	36.9	40.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)