



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-P29-835-XXX-POE-LW-WH-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 12326812.07  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUE DATE] 29-JAN-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 8CR-TL-P29-835-xxx-POE x-LW-WH-xx  
 [LUMINAIRE] 8" DIA. SURFACE CYLINDER  
 [LAMP] One white LED  
 [OTHER] This test was performed using the calibrated photodetector met  
 [MORE] hod of absolute photometry.

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2453
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
Total Luminaire Watts	25
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.08
Spacing Criterion (90-270)	1.08
Spacing Criterion (Diagonal)	0.98
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.46 ft (Diameter)
Luminous Width (90-270)	0.46 ft (Diameter)
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	40782	40782	40782
55	33952	33952	33952
65	25794	25794	25794
75	18706	18706	18706
85	12190	12190	12190

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CANDELA TABULATION

	<u>0</u>
0.0	1560.537
0.5	1560.223
1.0	1558.966
1.5	1557.081
2.0	1554.724
2.5	1551.582
3.0	1548.440
3.5	1544.826
4.0	1541.527
4.5	1538.228
5.0	1535.871
5.5	1533.672
6.0	1531.629
6.5	1529.587
7.0	1527.387
7.5	1525.345
8.0	1523.303
8.5	1521.417
9.0	1519.532
9.5	1517.961
10.0	1516.390
10.5	1515.133
11.0	1514.033
11.5	1513.405
12.0	1512.305
12.5	1511.206
13.0	1509.634
13.5	1507.592
14.0	1505.078
14.5	1502.250
15.0	1499.265
15.5	1495.495
16.0	1491.410
16.5	1487.325
17.0	1483.241
17.5	1478.999
18.0	1474.443
18.5	1469.258
19.0	1463.445
19.5	1457.004
20.0	1449.620
20.5	1441.607
21.0	1431.710
21.5	1419.927
22.0	1406.573
22.5	1391.491
23.0	1374.994
23.5	1357.084
24.0	1337.289
24.5	1315.922
25.0	1292.828
25.5	1268.791
26.0	1243.182
26.5	1216.474

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	1188.038
<b>27.5</b>	1158.816
<b>28.0</b>	1128.023
<b>28.5</b>	1095.502
<b>29.0</b>	1061.724
<b>29.5</b>	1026.218
<b>30.0</b>	989.770
<b>30.5</b>	952.221
<b>31.0</b>	914.673
<b>31.5</b>	876.810
<b>32.0</b>	840.047
<b>32.5</b>	804.856
<b>33.0</b>	771.078
<b>33.5</b>	739.499
<b>34.0</b>	710.435
<b>34.5</b>	684.041
<b>35.0</b>	660.475
<b>35.5</b>	638.794
<b>36.0</b>	619.784
<b>36.5</b>	602.346
<b>37.0</b>	586.792
<b>37.5</b>	572.810
<b>38.0</b>	560.084
<b>38.5</b>	548.458
<b>39.0</b>	537.461
<b>39.5</b>	527.563
<b>40.0</b>	517.979
<b>40.5</b>	509.024
<b>41.0</b>	500.698
<b>41.5</b>	492.528
<b>42.0</b>	484.673
<b>42.5</b>	477.446
<b>43.0</b>	470.062
<b>43.5</b>	462.835
<b>44.0</b>	455.765
<b>44.5</b>	448.853
<b>45.0</b>	441.783
<b>45.5</b>	435.027
<b>46.0</b>	428.115
<b>46.5</b>	421.202
<b>47.0</b>	414.132
<b>47.5</b>	407.220
<b>48.0</b>	400.150
<b>48.5</b>	393.080
<b>49.0</b>	386.010
<b>49.5</b>	378.626
<b>50.0</b>	371.556
<b>50.5</b>	364.330
<b>51.0</b>	357.103
<b>51.5</b>	349.719
<b>52.0</b>	342.335
<b>52.5</b>	334.951
<b>53.0</b>	327.567
<b>53.5</b>	320.183
<b>54.0</b>	313.113
<b>54.5</b>	305.886

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**CANDELA TABULATION - (Cont.)**

55.0	298.345
55.5	290.961
56.0	283.577
56.5	276.664
57.0	269.752
57.5	262.525
58.0	255.298
58.5	248.228
59.0	241.315
59.5	234.403
60.0	227.804
60.5	221.206
61.0	214.764
61.5	208.323
62.0	202.196
62.5	196.069
63.0	190.099
63.5	184.129
64.0	178.316
64.5	172.660
65.0	167.004
65.5	161.505
66.0	156.022
66.5	150.634
67.0	145.308
67.5	140.092
68.0	134.970
68.5	129.833
69.0	124.852
69.5	119.919
70.0	115.127
70.5	110.493
71.0	105.952
71.5	101.554
72.0	97.312
72.5	93.195
73.0	89.189
73.5	85.262
74.0	81.491
74.5	77.799
75.0	74.170
75.5	70.666
76.0	67.226
76.5	63.848
77.0	60.564
77.5	57.344
78.0	54.217
78.5	51.154
79.0	48.153
79.5	45.262
80.0	42.387
80.5	39.606
81.0	36.857
81.5	34.123
82.0	31.453
82.5	28.798

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CANDELA TABULATION - (Cont.)

83.0	26.205
83.5	23.660
84.0	21.147
84.5	18.680
85.0	16.276
85.5	13.951
86.0	11.704
86.5	9.536
87.0	7.431
87.5	5.672
88.0	4.336
88.5	3.174
89.0	2.199
89.5	1.383
90.0	0.880
90.5	0.000
91.0	0.000
91.5	0.000
92.0	0.000
92.5	0.000
93.0	0.000
93.5	0.000
94.0	0.000
94.5	0.000
95.0	0.000
95.5	0.000
96.0	0.000
96.5	0.000
97.0	0.000
97.5	0.000
98.0	0.000
98.5	0.000
99.0	0.000
99.5	0.000
100.0	0.000
100.5	0.000
101.0	0.000
101.5	0.000
102.0	0.000
102.5	0.000
103.0	0.000
103.5	0.000
104.0	0.000
104.5	0.000
105.0	0.000
105.5	0.000
106.0	0.000
106.5	0.000
107.0	0.000
107.5	0.000
108.0	0.000
108.5	0.000
109.0	0.000
109.5	0.000
110.0	0.000
110.5	0.000

IES INDOOR REPORT  
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CANDELA TABULATION - (Cont.)

111.0	0.000
111.5	0.000
112.0	0.000
112.5	0.000
113.0	0.000
113.5	0.000
114.0	0.000
114.5	0.000
115.0	0.000
115.5	0.000
116.0	0.000
116.5	0.000
117.0	0.000
117.5	0.000
118.0	0.000
118.5	0.000
119.0	0.000
119.5	0.000
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123.5	0.000
124.0	0.000
124.5	0.000
125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
130.0	0.000
130.5	0.000
131.0	0.000
131.5	0.000
132.0	0.000
132.5	0.000
133.0	0.000
133.5	0.000
134.0	0.000
134.5	0.000
135.0	0.000
135.5	0.000
136.0	0.000
136.5	0.000
137.0	0.000
137.5	0.000
138.0	0.000
138.5	0.000

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CANDELA TABULATION - (Cont.)

139.0	0.000
139.5	0.000
140.0	0.000
140.5	0.000
141.0	0.000
141.5	0.000
142.0	0.000
142.5	0.000
143.0	0.000
143.5	0.000
144.0	0.000
144.5	0.000
145.0	0.000
145.5	0.000
146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
148.0	0.000
148.5	0.000
149.0	0.000
149.5	0.000
150.0	0.000
150.5	0.000
151.0	0.000
151.5	0.000
152.0	0.000
152.5	0.000
153.0	0.000
153.5	0.000
154.0	0.000
154.5	0.000
155.0	0.000
155.5	0.000
156.0	0.000
156.5	0.000
157.0	0.000
157.5	0.000
158.0	0.000
158.5	0.000
159.0	0.000
159.5	0.000
160.0	0.000
160.5	0.000
161.0	0.000
161.5	0.000
162.0	0.000
162.5	0.000
163.0	0.000
163.5	0.000
164.0	0.000
164.5	0.000
165.0	0.000
165.5	0.000
166.0	0.000
166.5	0.000

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CANDELA TABULATION - (Cont.)

167.0	0.000
167.5	0.000
168.0	0.000
168.5	0.000
169.0	0.000
169.5	0.000
170.0	0.000
170.5	0.000
171.0	0.000
171.5	0.000
172.0	0.000
172.5	0.000
173.0	0.000
173.5	0.000
174.0	0.000
174.5	0.000
175.0	0.000
175.5	0.000
176.0	0.000
176.5	0.000
177.0	0.000
177.5	0.000
178.0	0.000
178.5	0.000
179.0	0.000
179.5	0.000
180.0	0.000



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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	568.45	N.A.	23.20
0-30	1149.07	N.A.	46.80
0-40	1579.61	N.A.	64.40
0-60	2187.52	N.A.	89.20
0-80	2433.75	N.A.	99.20
0-90	2453.21	N.A.	100.00
10-90	2307.18	N.A.	94.00
20-40	1011.16	N.A.	41.20
20-50	1352.32	N.A.	55.10
40-70	774.38	N.A.	31.60
60-80	246.23	N.A.	10.00
70-80	79.76	N.A.	3.30
80-90	19.46	N.A.	0.80
90-110	0.02	N.A.	0.00
90-120	0.02	N.A.	0.00
90-130	0.02	N.A.	0.00
90-150	0.02	N.A.	0.00
90-180	0.02	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2453.24	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	146.03
10-20	422.42
20-30	580.62
30-40	430.54
40-50	341.16
50-60	266.75
60-70	166.47
70-80	79.76
80-90	19.46
90-100	0.02
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

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
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	70	69
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61
5	83	72	64	59	81	71	64	58	69	63	58	67	62	57	65	61	57	55
6	78	66	58	53	76	65	58	53	64	57	52	62	56	52	61	55	52	50
7	73	61	53	48	71	60	53	48	59	52	48	58	52	47	56	51	47	45
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38
10	61	49	42	37	60	49	42	37	48	42	37	47	41	37	46	41	37	35

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## UGR TABLE - CORRECTED

### Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

### Room Size UGR Viewed Crosswise

X=2H	Y=2H	22.1	23.5	22.5	23.8	24.1	22.1	23.5	22.5	23.8	24.1
	3H	23.3	24.6	23.7	24.9	25.2	23.3	24.6	23.7	24.9	25.2
	4H	23.7	24.9	24.1	25.2	25.6	23.7	24.9	24.1	25.2	25.6
	6H	24.0	25.0	24.4	25.4	25.8	24.0	25.0	24.4	25.4	25.8
	8H	24.0	25.1	24.5	25.5	25.9	24.0	25.1	24.5	25.5	25.9
	12H	24.1	25.0	24.5	25.4	25.9	24.1	25.0	24.5	25.4	25.9

### UGR Viewed Endwise

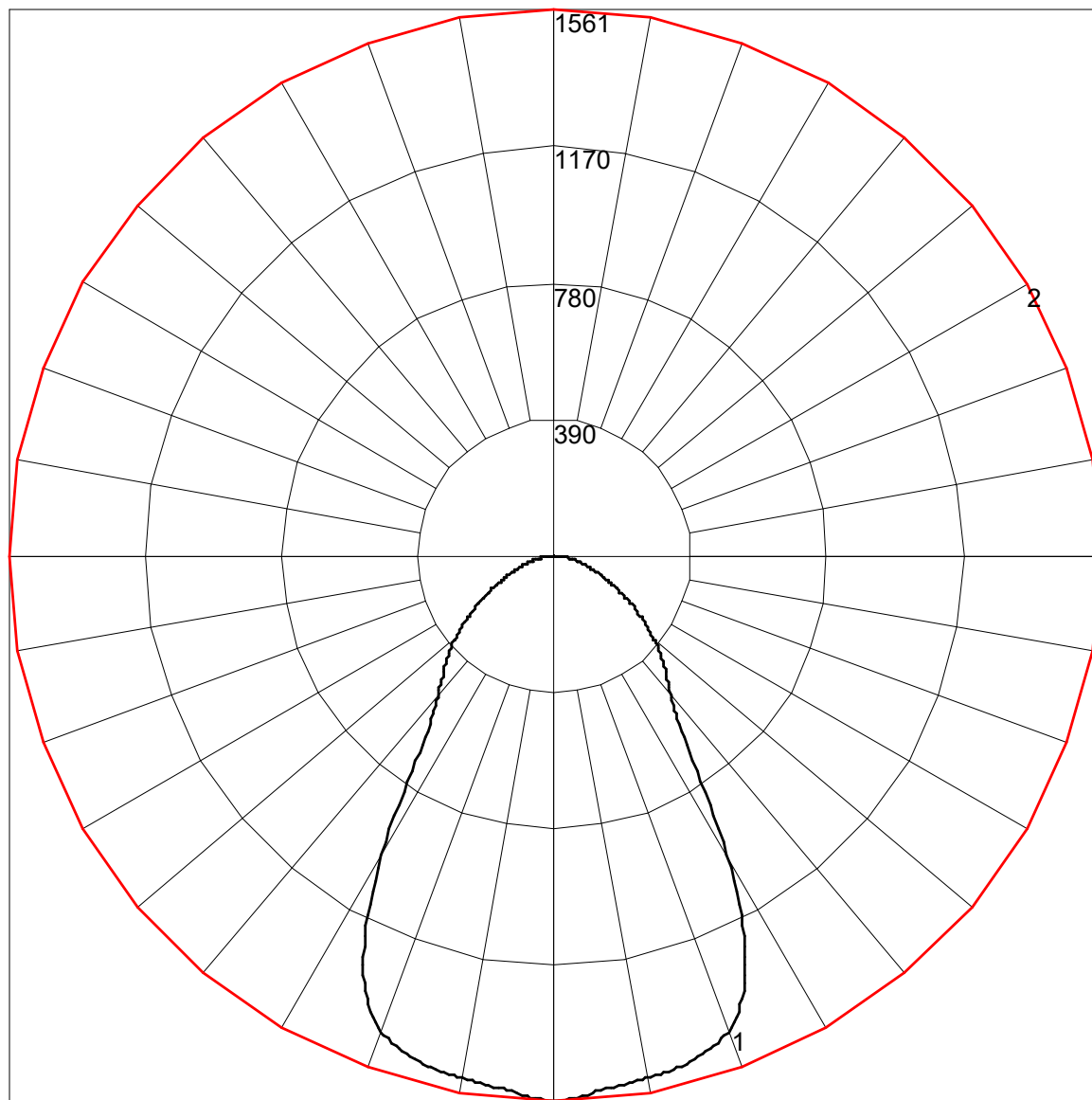
4H	2H	22.5	23.7	22.9	24.0	24.4	22.5	23.7	22.9	24.0	24.4
	3H	23.9	24.9	24.3	25.3	25.7	23.9	24.9	24.3	25.3	25.7
	4H	24.4	25.3	24.8	25.7	26.1	24.4	25.3	24.8	25.7	26.1
	6H	24.8	25.5	25.3	26.0	26.4	24.8	25.5	25.3	26.0	26.4
	8H	24.9	25.6	25.3	26.0	26.5	24.9	25.6	25.3	26.0	26.5
	12H	25.0	25.6	25.4	26.1	26.5	25.0	25.6	25.4	26.1	26.5

8H	4H	24.6	25.3	25.0	25.7	26.2	24.6	25.3	25.0	25.7	26.2
	6H	25.0	25.6	25.5	26.1	26.6	25.0	25.6	25.5	26.1	26.6
	8H	25.2	25.7	25.7	26.2	26.7	25.2	25.7	25.7	26.2	26.7
	12H	25.3	25.8	25.8	26.3	26.8	25.3	25.8	25.8	26.3	26.8

12H	4H	24.6	25.2	25.0	25.7	26.1	24.6	25.2	25.0	25.7	26.1
	6H	25.1	25.6	25.6	26.0	26.6	25.1	25.6	25.6	26.0	26.6
	8H	25.3	25.7	25.8	26.2	26.8	25.3	25.7	25.8	26.2	26.8

Maximum UGR = 26.8

POLAR GRAPH



Maximum Candela = 1560.537 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)