



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L10-935-XXX-DIM-UNV-LM-CS-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12326812.09

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 1-FEB-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] 8CR-TL-L10-935-xxx-DIM-UNV-LM-CS-xx

[LUMINAIRE] 8" DIA. SURFACE CYLINDER

[LAMP] One white LED

[\_SEARCH\_SOURCE TYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Healthcare, Office, Downlight

[\_SEARCH\_MOUNTING] Surface

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	819
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	8.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.60
Spacing Criterion (90-270)	0.60
Spacing Criterion (Diagonal)	0.56
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	3659	3659	3659
55	2679	2679	2679
65	2183	2183	2183
75	1777	1777	1777
85	1168	1168	1168

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CANDELA TABULATION

	<u>0</u>
0.0	1934.035
0.5	1933.143
1.0	1930.468
1.5	1926.456
2.0	1921.106
2.5	1913.526
3.0	1905.055
3.5	1895.247
4.0	1883.655
4.5	1871.618
5.0	1858.243
5.5	1843.084
6.0	1826.588
6.5	1808.309
7.0	1788.692
7.5	1767.292
8.0	1743.663
8.5	1718.250
9.0	1691.500
9.5	1662.967
10.0	1632.204
10.5	1599.658
11.0	1564.883
11.5	1527.433
12.0	1488.645
12.5	1447.628
13.0	1404.828
13.5	1359.799
14.0	1313.432
14.5	1265.281
15.0	1216.239
15.5	1166.306
16.0	1116.372
16.5	1065.993
17.0	1016.951
17.5	967.909
18.0	918.421
18.5	869.825
19.0	821.675
19.5	775.308
20.0	730.279
20.5	687.033
21.0	646.462
21.5	607.674
22.0	568.886
22.5	532.328
23.0	497.553
23.5	464.561
24.0	433.843
24.5	404.774
25.0	377.623
25.5	352.032
26.0	328.313
26.5	306.111

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	285.469
<b>27.5</b>	266.342
<b>28.0</b>	248.509
<b>28.5</b>	232.013
<b>29.0</b>	216.721
<b>29.5</b>	202.454
<b>30.0</b>	189.257
<b>30.5</b>	176.952
<b>31.0</b>	165.539
<b>31.5</b>	154.928
<b>32.0</b>	145.030
<b>32.5</b>	135.846
<b>33.0</b>	127.286
<b>33.5</b>	119.306
<b>34.0</b>	111.949
<b>34.5</b>	105.128
<b>35.0</b>	98.753
<b>35.5</b>	92.912
<b>36.0</b>	87.473
<b>36.5</b>	82.524
<b>37.0</b>	77.932
<b>37.5</b>	73.741
<b>38.0</b>	69.952
<b>38.5</b>	66.430
<b>39.0</b>	63.219
<b>39.5</b>	60.277
<b>40.0</b>	57.602
<b>40.5</b>	55.105
<b>41.0</b>	52.832
<b>41.5</b>	50.736
<b>42.0</b>	48.774
<b>42.5</b>	46.991
<b>43.0</b>	45.297
<b>43.5</b>	43.736
<b>44.0</b>	42.310
<b>44.5</b>	40.928
<b>45.0</b>	39.635
<b>45.5</b>	38.431
<b>46.0</b>	37.316
<b>46.5</b>	36.246
<b>47.0</b>	35.221
<b>47.5</b>	34.240
<b>48.0</b>	33.349
<b>48.5</b>	32.457
<b>49.0</b>	31.610
<b>49.5</b>	30.807
<b>50.0</b>	30.049
<b>50.5</b>	29.291
<b>51.0</b>	28.578
<b>51.5</b>	27.865
<b>52.0</b>	27.196
<b>52.5</b>	26.572
<b>53.0</b>	25.903
<b>53.5</b>	25.279
<b>54.0</b>	24.699
<b>54.5</b>	24.120

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CANDELA TABULATION - (Cont.)

55.0	23.540
55.5	22.961
56.0	22.426
56.5	21.891
57.0	21.356
57.5	20.821
58.0	20.330
58.5	19.840
59.0	19.349
59.5	18.903
60.0	18.458
60.5	17.967
61.0	17.521
61.5	17.076
62.0	16.630
62.5	16.228
63.0	15.783
63.5	15.381
64.0	14.980
64.5	14.579
65.0	14.133
65.5	13.732
66.0	13.330
66.5	12.974
67.0	12.573
67.5	12.171
68.0	11.815
68.5	11.458
69.0	11.057
69.5	10.700
70.0	10.343
70.5	9.987
71.0	9.675
71.5	9.318
72.0	8.961
72.5	8.649
73.0	8.293
73.5	7.980
74.0	7.668
74.5	7.356
75.0	7.044
75.5	6.732
76.0	6.420
76.5	6.108
77.0	5.796
77.5	5.528
78.0	5.216
78.5	4.949
79.0	4.681
79.5	4.369
80.0	4.102
80.5	3.834
81.0	3.567
81.5	3.299
82.0	3.032
82.5	2.764

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CANDELA TABULATION - (Cont.)

83.0	2.541
83.5	2.274
84.0	2.051
84.5	1.783
85.0	1.560
85.5	1.338
86.0	1.115
86.5	0.936
87.0	0.758
87.5	0.624
88.0	0.490
88.5	0.401
89.0	0.312
89.5	0.223
90.0	0.134
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
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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

IES INDOOR REPORT  
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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
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145.0	0.000
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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

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
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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	497.41	N.A.	60.70
0-30	677.55	N.A.	82.70
0-40	743.06	N.A.	90.70
0-60	795.72	N.A.	97.10
0-80	817.26	N.A.	99.80
0-90	819.17	N.A.	100.00
10-90	648.85	N.A.	79.20
20-40	245.65	N.A.	30.00
20-50	277.10	N.A.	33.80
40-70	66.72	N.A.	8.10
60-80	21.55	N.A.	2.60
70-80	7.48	N.A.	0.90
80-90	1.90	N.A.	0.20
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	819.17	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	170.31
10-20	327.09
20-30	180.14
30-40	65.51
40-50	31.45
50-60	21.21
60-70	14.07
70-80	7.48
80-90	1.90
90-100	0.00
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	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	100	97	107	103	99	96	99	97	94	96	94	92	94	92	90	89
3	104	98	94	90	102	97	93	89	94	91	88	92	89	86	90	87	85	84
4	100	93	88	84	98	92	87	84	90	86	83	88	84	82	86	83	81	79
5	96	88	83	79	94	87	82	79	85	81	78	84	80	77	82	79	77	75
6	92	84	79	75	90	83	78	75	82	77	74	80	77	74	79	76	73	72
7	88	80	75	71	87	79	74	71	78	74	71	77	73	70	76	73	70	69
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66
9	82	74	68	65	81	73	68	65	72	68	65	71	67	64	71	67	64	63
10	79	71	66	62	78	70	65	62	69	65	62	69	65	62	68	64	62	61

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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	8.9	9.9	9.2	10.2	10.5	8.9	9.9	9.2	10.2	10.5
	3H	10.3	11.2	10.7	11.5	11.9	10.3	11.2	10.7	11.5	11.9
	4H	10.8	11.6	11.2	12.0	12.4	10.8	11.6	11.2	12.0	12.4
	6H	11.1	11.9	11.6	12.3	12.7	11.1	11.9	11.6	12.3	12.7
	8H	11.2	11.9	11.7	12.3	12.7	11.2	11.9	11.7	12.3	12.7
	12H	11.3	11.9	11.7	12.3	12.8	11.3	11.9	11.7	12.3	12.8

### UGR Viewed Endwise

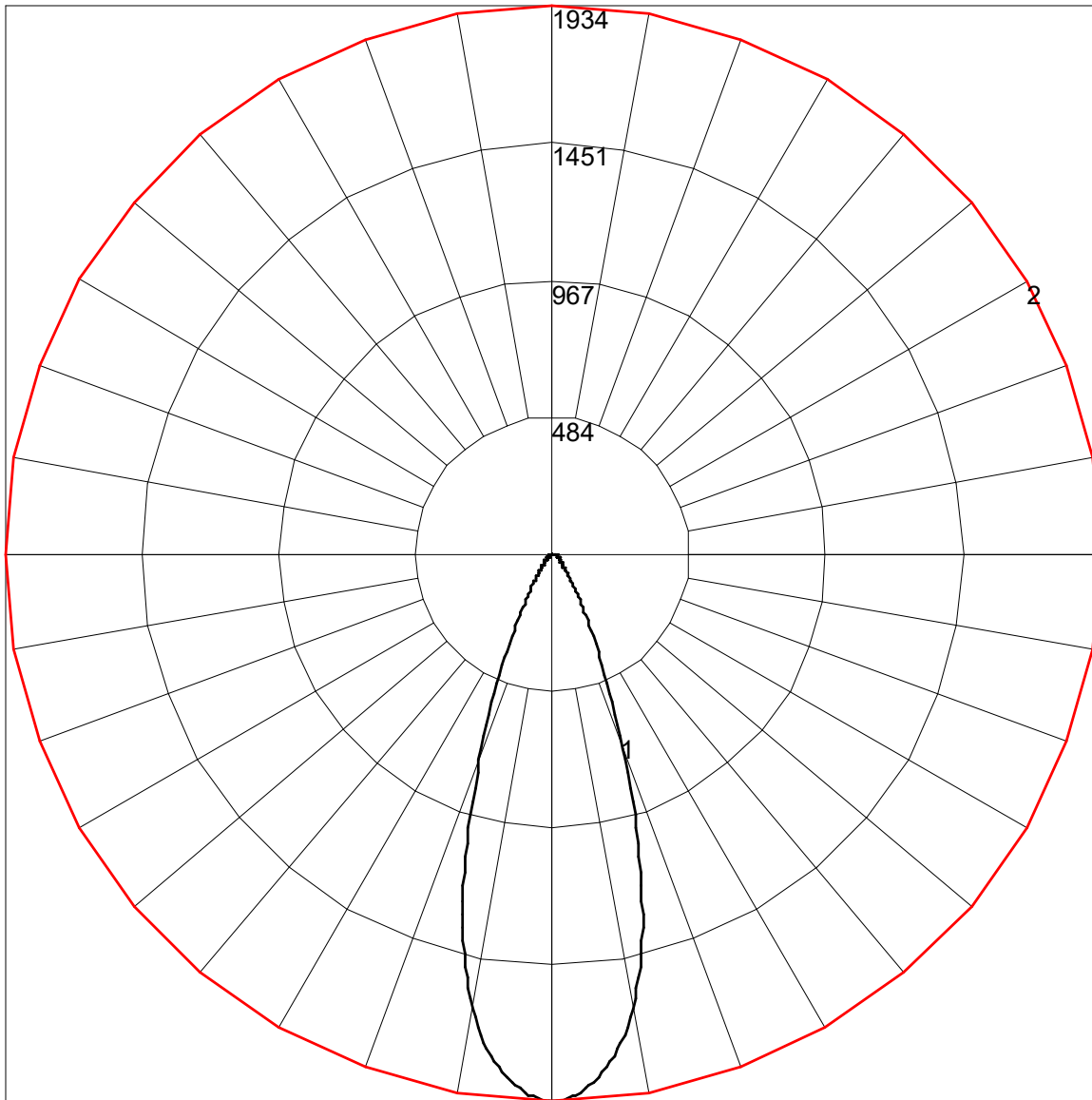
4H	2H	9.3	10.1	9.7	10.5	10.9	9.3	10.1	9.7	10.5	10.9
	3H	10.9	11.6	11.3	12.0	12.4	10.9	11.6	11.3	12.0	12.4
	4H	11.5	12.1	11.9	12.5	13.0	11.5	12.1	11.9	12.5	13.0
	6H	12.0	12.5	12.4	12.9	13.4	12.0	12.5	12.4	12.9	13.4
	8H	12.1	12.6	12.6	13.0	13.5	12.1	12.6	12.6	13.0	13.5
	12H	12.2	12.6	12.7	13.1	13.5	12.2	12.6	12.7	13.1	13.5

8H	4H	11.7	12.2	12.2	12.6	13.1	11.7	12.2	12.2	12.6	13.1
	6H	12.2	12.6	12.8	13.1	13.6	12.2	12.6	12.8	13.1	13.6
	8H	12.4	12.8	13.0	13.3	13.8	12.4	12.8	13.0	13.3	13.8
	12H	12.6	12.9	13.1	13.4	13.9	12.6	12.9	13.1	13.4	13.9

12H	4H	11.7	12.1	12.2	12.6	13.1	11.7	12.1	12.2	12.6	13.1
	6H	12.3	12.6	12.8	13.1	13.6	12.3	12.6	12.8	13.1	13.6
	8H	12.5	12.8	13.0	13.3	13.9	12.5	12.8	13.0	13.3	13.9

Maximum UGR = 13.9

POLAR GRAPH



Maximum Candela = 1934.035 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.)