



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-930-XXX-DIM-UNV-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-L20-930-xxx-DIM-UNV-LW-WH-xx

[LUMINAIRE] 8" DIA. SURFACE CYLINDER

[LAMP] One white LED

[\_SEARCH\_SOURCETYPE] 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	1233
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	63
Total Luminaire Watts	19.5
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)	0.50 ft (Diameter)
Luminous Width (90-270)	0.50 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	17193	17193	17193
55	14314	14314	14314
65	10874	10874	10874
75	7886	7886	7886
85	5139	5139	5139

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CANDELA TABULATION

	<u>0</u>
0.0	784.084
0.5	783.926
1.0	783.294
1.5	782.347
2.0	781.163
2.5	779.584
3.0	778.006
3.5	776.190
4.0	774.532
4.5	772.875
5.0	771.691
5.5	770.586
6.0	769.559
6.5	768.533
7.0	767.428
7.5	766.402
8.0	765.376
8.5	764.428
9.0	763.481
9.5	762.692
10.0	761.902
10.5	761.271
11.0	760.718
11.5	760.403
12.0	759.850
12.5	759.298
13.0	758.508
13.5	757.482
14.0	756.219
14.5	754.798
15.0	753.298
15.5	751.404
16.0	749.351
16.5	747.299
17.0	745.247
17.5	743.115
18.0	740.826
18.5	738.221
19.0	735.301
19.5	732.064
20.0	728.354
20.5	724.328
21.0	719.355
21.5	713.435
22.0	706.725
22.5	699.147
23.0	690.859
23.5	681.860
24.0	671.914
24.5	661.179
25.0	649.575
25.5	637.497
26.0	624.631
26.5	611.211

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	596.924
<b>27.5</b>	582.241
<b>28.0</b>	566.770
<b>28.5</b>	550.430
<b>29.0</b>	533.458
<b>29.5</b>	515.618
<b>30.0</b>	497.305
<b>30.5</b>	478.439
<b>31.0</b>	459.573
<b>31.5</b>	440.549
<b>32.0</b>	422.078
<b>32.5</b>	404.396
<b>33.0</b>	387.424
<b>33.5</b>	371.558
<b>34.0</b>	356.954
<b>34.5</b>	343.693
<b>35.0</b>	331.852
<b>35.5</b>	320.959
<b>36.0</b>	311.407
<b>36.5</b>	302.645
<b>37.0</b>	294.831
<b>37.5</b>	287.805
<b>38.0</b>	281.411
<b>38.5</b>	275.570
<b>39.0</b>	270.044
<b>39.5</b>	265.071
<b>40.0</b>	260.256
<b>40.5</b>	255.757
<b>41.0</b>	251.573
<b>41.5</b>	247.468
<b>42.0</b>	243.521
<b>42.5</b>	239.890
<b>43.0</b>	236.180
<b>43.5</b>	232.549
<b>44.0</b>	228.997
<b>44.5</b>	225.524
<b>45.0</b>	221.972
<b>45.5</b>	218.577
<b>46.0</b>	215.104
<b>46.5</b>	211.631
<b>47.0</b>	208.079
<b>47.5</b>	204.605
<b>48.0</b>	201.053
<b>48.5</b>	197.501
<b>49.0</b>	193.949
<b>49.5</b>	190.239
<b>50.0</b>	186.687
<b>50.5</b>	183.056
<b>51.0</b>	179.424
<b>51.5</b>	175.714
<b>52.0</b>	172.004
<b>52.5</b>	168.294
<b>53.0</b>	164.584
<b>53.5</b>	160.874
<b>54.0</b>	157.322
<b>54.5</b>	153.691

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CANDELA TABULATION - (Cont.)

55.0	149.902
55.5	146.192
56.0	142.482
56.5	139.009
57.0	135.535
57.5	131.904
58.0	128.273
58.5	124.721
59.0	121.248
59.5	117.774
60.0	114.459
60.5	111.144
61.0	107.907
61.5	104.671
62.0	101.592
62.5	98.514
63.0	95.514
63.5	92.514
64.0	89.594
64.5	86.752
65.0	83.910
65.5	81.148
66.0	78.393
66.5	75.685
67.0	73.009
67.5	70.388
68.0	67.815
68.5	65.234
69.0	62.731
69.5	60.253
70.0	57.845
70.5	55.517
71.0	53.235
71.5	51.025
72.0	48.894
72.5	46.826
73.0	44.813
73.5	42.839
74.0	40.945
74.5	39.090
75.0	37.266
75.5	35.506
76.0	33.777
76.5	32.080
77.0	30.430
77.5	28.812
78.0	27.241
78.5	25.702
79.0	24.194
79.5	22.742
80.0	21.297
80.5	19.900
81.0	18.519
81.5	17.145
82.0	15.803
82.5	14.469

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CANDELA TABULATION - (Cont.)

83.0	13.167
83.5	11.888
84.0	10.625
84.5	9.386
85.0	8.178
85.5	7.010
86.0	5.881
86.5	4.791
87.0	3.734
87.5	2.850
88.0	2.179
88.5	1.595
89.0	1.105
89.5	0.695
90.0	0.442
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
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125.5	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

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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
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146.0	0.000
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149.5	0.000
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151.0	0.000
151.5	0.000
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152.5	0.000
153.0	0.000
153.5	0.000
154.0	0.000
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155.5	0.000
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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

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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 8CR-TL-L20-930-XXX-DIM-UNV-LW-WH-XX\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	285.62	N.A.	23.20
0-30	577.35	N.A.	46.80
0-40	793.67	N.A.	64.40
0-60	1099.11	N.A.	89.20
0-80	1222.83	N.A.	99.20
0-90	1232.6	N.A.	100.00
10-90	1159.23	N.A.	94.00
20-40	508.05	N.A.	41.20
20-50	679.46	N.A.	55.10
40-70	389.08	N.A.	31.60
60-80	123.72	N.A.	10.00
70-80	40.08	N.A.	3.30
80-90	9.78	N.A.	0.80
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1232.62	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	73.37
10-20	212.24
20-30	291.73
30-40	216.32
40-50	171.41
50-60	134.03
60-70	83.64
70-80	40.08
80-90	9.78
90-100	0.01
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	100	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	77	74	70	69
4	89	79	71	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	51	50
7	73	61	53	48	71	60	53	48	59	52	48	57	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	19.1	20.5	19.5	20.8	21.1	19.1	20.5	19.5	20.8	21.1
	3H	20.3	21.5	20.7	21.9	22.2	20.3	21.5	20.7	21.9	22.2
	4H	20.7	21.9	21.1	22.2	22.6	20.7	21.9	21.1	22.2	22.6
	6H	21.0	22.0	21.4	22.4	22.8	21.0	22.0	21.4	22.4	22.8
	8H	21.0	22.1	21.5	22.4	22.8	21.0	22.1	21.5	22.4	22.8
	12H	21.1	22.0	21.5	22.4	22.9	21.1	22.0	21.5	22.4	22.9

### UGR Viewed Endwise

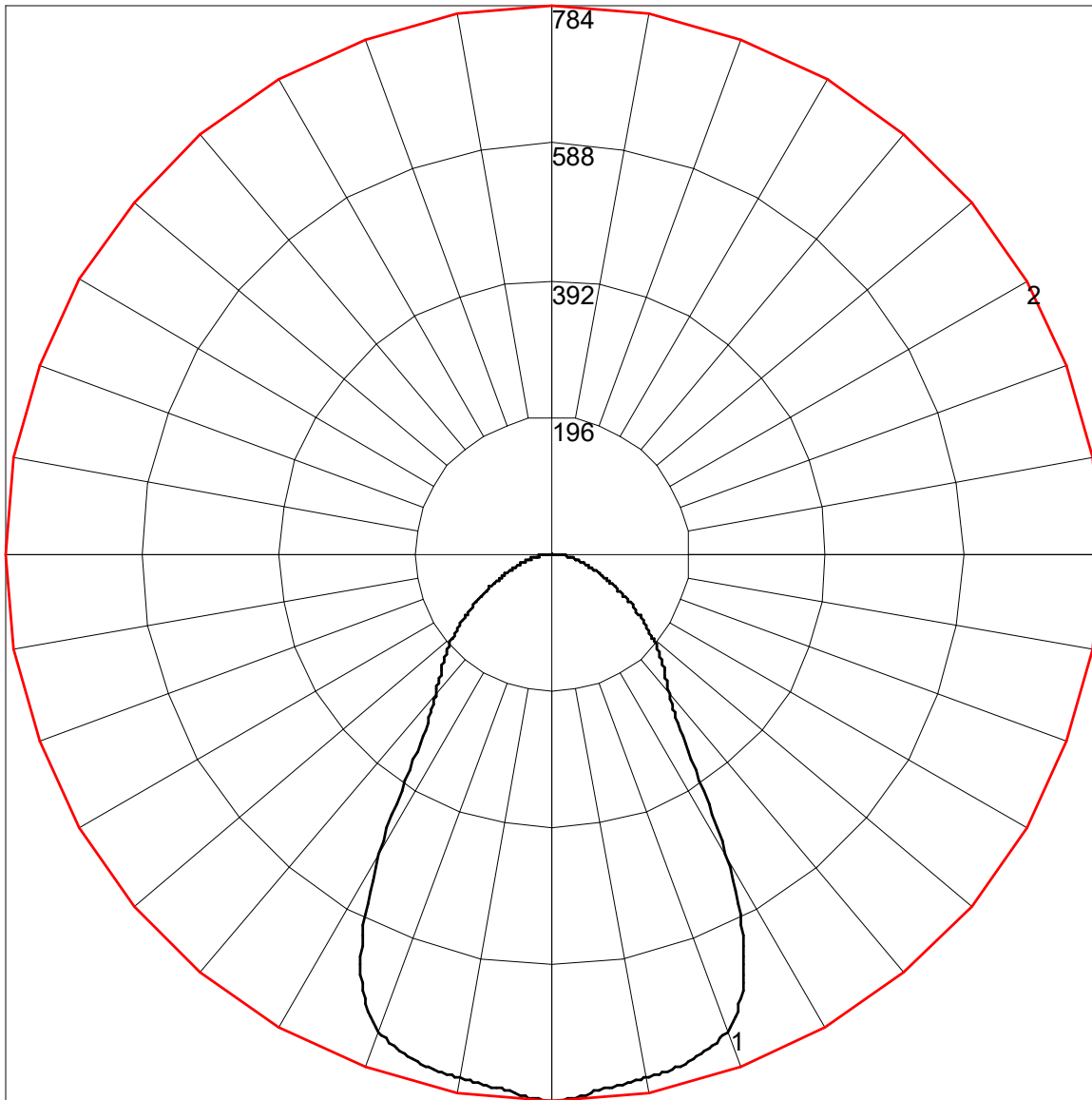
4H	2H	19.5	20.7	19.9	21.0	21.4	19.5	20.7	19.9	21.0	21.4
	3H	20.9	21.9	21.3	22.3	22.7	20.9	21.9	21.3	22.3	22.7
	4H	21.4	22.3	21.8	22.7	23.1	21.4	22.3	21.8	22.7	23.1
	6H	21.8	22.5	22.2	23.0	23.4	21.8	22.5	22.2	23.0	23.4
	8H	21.9	22.6	22.3	23.0	23.5	21.9	22.6	22.3	23.0	23.5
	12H	21.9	22.6	22.4	23.0	23.5	21.9	22.6	22.4	23.0	23.5

8H	4H	21.5	22.3	22.0	22.7	23.2	21.5	22.3	22.0	22.7	23.2
	6H	22.0	22.6	22.5	23.1	23.6	22.0	22.6	22.5	23.1	23.6
	8H	22.2	22.7	22.7	23.2	23.7	22.2	22.7	22.7	23.2	23.7
	12H	22.3	22.8	22.8	23.2	23.8	22.3	22.8	22.8	23.2	23.8

12H	4H	21.6	22.2	22.0	22.7	23.1	21.6	22.2	22.0	22.7	23.1
	6H	22.1	22.6	22.6	23.0	23.6	22.1	22.6	22.6	23.0	23.6
	8H	22.2	22.7	22.8	23.2	23.8	22.2	22.7	22.8	23.2	23.8

Maximum UGR = 23.8

POLAR GRAPH



Maximum Candela = 784.084 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.)