



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.12

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 1-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L20-830-xxx-DIM-UNV-RW-WH-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	1387
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	71
Total Luminaire Watts	19.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.04
Spacing Criterion (90-270)	1.04
Spacing Criterion (Diagonal)	0.94
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.48 ft (Diameter)
Luminous Width (90-270)	0.48 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	18729	18729	18729
55	15619	15619	15619
65	11019	11019	11019
75	6750	6750	6750
85	5324	5324	5324

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

CANDELA TABULATION

	<u>0</u>
0.0	1026.092
0.5	1025.133
1.0	1024.173
1.5	1023.213
2.0	1021.293
2.5	1018.414
3.0	1015.534
3.5	1011.695
4.0	1007.855
4.5	1004.976
5.0	1001.136
5.5	997.297
6.0	993.457
6.5	989.618
7.0	985.778
7.5	981.939
8.0	977.140
8.5	973.300
9.0	969.461
9.5	964.661
10.0	960.822
10.5	956.119
11.0	951.511
11.5	946.904
12.0	942.297
12.5	937.785
13.0	933.178
13.5	928.379
14.0	923.675
14.5	919.068
15.0	914.748
15.5	910.333
16.0	906.014
16.5	901.790
17.0	897.855
17.5	893.919
18.0	890.080
18.5	886.433
19.0	882.785
19.5	879.042
20.0	875.202
20.5	871.075
21.0	866.371
21.5	860.996
22.0	854.949
22.5	848.230
23.0	840.935
23.5	832.680
24.0	823.658
24.5	813.771
25.0	802.829
25.5	791.022
26.0	777.872
26.5	763.474

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES**

**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	748.116
<b>27.5</b>	731.415
<b>28.0</b>	713.657
<b>28.5</b>	694.364
<b>29.0</b>	674.015
<b>29.5</b>	651.938
<b>30.0</b>	628.518
<b>30.5</b>	603.753
<b>31.0</b>	578.029
<b>31.5</b>	551.729
<b>32.0</b>	524.949
<b>32.5</b>	498.360
<b>33.0</b>	472.060
<b>33.5</b>	446.624
<b>34.0</b>	422.243
<b>34.5</b>	399.303
<b>35.0</b>	378.378
<b>35.5</b>	359.180
<b>36.0</b>	342.287
<b>36.5</b>	327.313
<b>37.0</b>	314.163
<b>37.5</b>	302.932
<b>38.0</b>	293.046
<b>38.5</b>	284.311
<b>39.0</b>	276.728
<b>39.5</b>	270.009
<b>40.0</b>	263.866
<b>40.5</b>	258.299
<b>41.0</b>	253.116
<b>41.5</b>	248.412
<b>42.0</b>	244.093
<b>42.5</b>	239.965
<b>43.0</b>	236.030
<b>43.5</b>	232.287
<b>44.0</b>	228.735
<b>44.5</b>	225.376
<b>45.0</b>	221.920
<b>45.5</b>	218.657
<b>46.0</b>	215.297
<b>46.5</b>	212.034
<b>47.0</b>	208.674
<b>47.5</b>	205.314
<b>48.0</b>	201.859
<b>48.5</b>	198.403
<b>49.0</b>	195.140
<b>49.5</b>	191.780
<b>50.0</b>	188.229
<b>50.5</b>	184.581
<b>51.0</b>	180.838
<b>51.5</b>	177.095
<b>52.0</b>	173.351
<b>52.5</b>	169.512
<b>53.0</b>	165.768
<b>53.5</b>	162.121
<b>54.0</b>	158.089
<b>54.5</b>	154.058

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

CANDELA TABULATION - (Cont.)

55.0	150.122
55.5	146.091
56.0	142.156
56.5	138.220
57.0	134.285
57.5	130.349
58.0	126.606
58.5	122.766
59.0	119.023
59.5	115.375
60.0	111.728
60.5	108.080
61.0	104.529
61.5	101.073
62.0	97.618
62.5	94.258
63.0	90.899
63.5	87.539
64.0	84.372
64.5	81.108
65.0	78.037
65.5	74.869
66.0	71.894
66.5	68.918
67.0	66.039
67.5	63.159
68.0	60.375
68.5	57.592
69.0	55.000
69.5	52.312
70.0	49.817
70.5	47.321
71.0	44.922
71.5	42.618
72.0	40.314
72.5	38.203
73.0	36.187
73.5	34.363
74.0	32.539
74.5	30.908
75.0	29.276
75.5	27.836
76.0	26.396
76.5	25.148
77.0	23.997
77.5	22.845
78.0	21.693
78.5	20.541
79.0	19.485
79.5	18.429
80.0	17.374
80.5	16.318
81.0	15.262
81.5	14.302
82.0	13.246
82.5	12.286

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

CANDELA TABULATION - (Cont.)

83.0	11.326
83.5	10.462
84.0	9.503
84.5	8.639
85.0	7.775
85.5	6.911
86.0	6.047
86.5	5.183
87.0	4.415
87.5	3.551
88.0	2.880
88.5	2.304
89.0	1.824
89.5	1.344
90.0	0.960
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  
PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

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
120.0	0.000
120.5	0.000
121.0	0.000
121.5	0.000
122.0	0.000
122.5	0.000
123.0	0.000
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

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

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

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

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-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	352.59	N.A.	25.40
0-30	712.79	N.A.	51.40
0-40	962.01	N.A.	69.40
0-60	1267.84	N.A.	91.40
0-80	1378.24	N.A.	99.40
0-90	1387.1	N.A.	100.00
10-90	1292.84	N.A.	93.20
20-40	609.42	N.A.	43.90
20-50	781.37	N.A.	56.30
40-70	383.75	N.A.	27.70
60-80	110.41	N.A.	8.00
70-80	32.48	N.A.	2.30
80-90	8.85	N.A.	0.60
90-110	0.03	N.A.	0.00
90-120	0.03	N.A.	0.00
90-130	0.03	N.A.	0.00
90-150	0.03	N.A.	0.00
90-180	0.03	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1387.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	94.26
10-20	258.33
20-30	360.21
30-40	249.22
40-50	171.94
50-60	133.89
60-70	77.92
70-80	32.48
80-90	8.85
90-100	0.03
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

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

## 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	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	66	64
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	58
6	79	68	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-830-XXX-DIM-UNV-RW-WH-XX\_.IES

## 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	19.0	20.4	19.4	20.7	21.0	19.0	20.4	19.4	20.7	21.0
	3H	20.0	21.2	20.4	21.5	21.9	20.0	21.2	20.4	21.5	21.9
	4H	20.3	21.4	20.7	21.7	22.1	20.3	21.4	20.7	21.7	22.1
	6H	20.4	21.5	20.9	21.8	22.2	20.4	21.5	20.9	21.8	22.2
	8H	20.5	21.5	20.9	21.9	22.3	20.5	21.5	20.9	21.9	22.3
	12H	20.5	21.4	21.0	21.8	22.3	20.5	21.4	21.0	21.8	22.3

### UGR Viewed Endwise

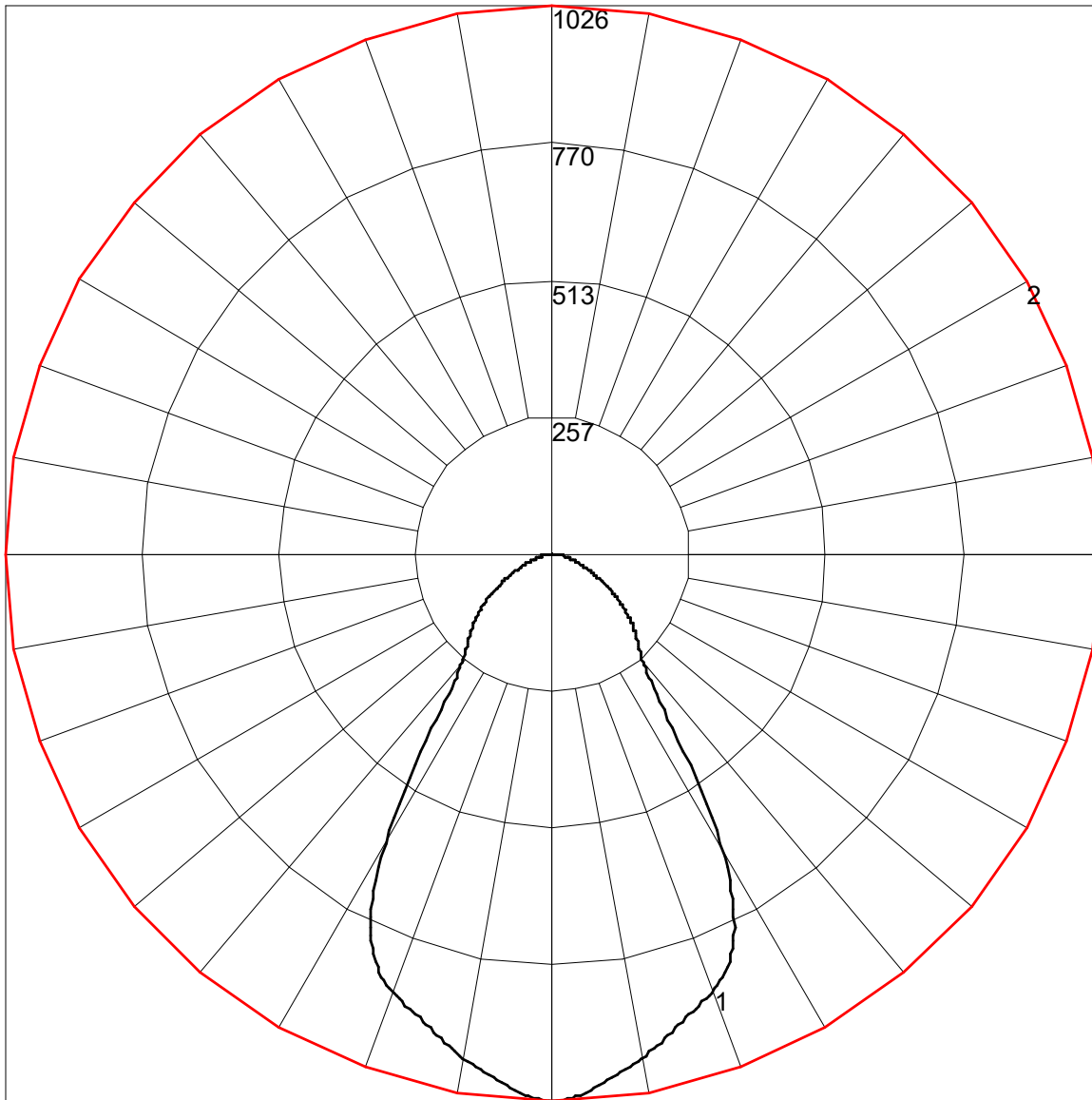
4H	2H	19.4	20.5	19.8	20.8	21.2	19.4	20.5	19.8	20.8	21.2
	3H	20.5	21.4	20.9	21.8	22.2	20.5	21.4	20.9	21.8	22.2
	4H	20.9	21.7	21.3	22.1	22.5	20.9	21.7	21.3	22.1	22.5
	6H	21.1	21.8	21.6	22.3	22.7	21.1	21.8	21.6	22.3	22.7
	8H	21.2	21.8	21.7	22.3	22.8	21.2	21.8	21.7	22.3	22.8
	12H	21.3	21.8	21.7	22.3	22.8	21.3	21.8	21.7	22.3	22.8

8H	4H	20.9	21.6	21.4	22.0	22.5	20.9	21.6	21.4	22.0	22.5
	6H	21.3	21.8	21.8	22.3	22.8	21.3	21.8	21.8	22.3	22.8
	8H	21.4	21.9	21.9	22.4	22.9	21.4	21.9	21.9	22.4	22.9
	12H	21.5	21.9	22.0	22.4	23.0	21.5	21.9	22.0	22.4	23.0

12H	4H	20.9	21.5	21.4	22.0	22.5	20.9	21.5	21.4	22.0	22.5
	6H	21.3	21.8	21.8	22.2	22.8	21.3	21.8	21.8	22.2	22.8
	8H	21.4	21.9	22.0	22.4	22.9	21.4	21.9	22.0	22.4	22.9

Maximum UGR = 23.0

POLAR GRAPH



Maximum Candela = 1026.092 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.)