



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-OM-SPC-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 2-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L20-835-xxx-DIM-UNV-OM-SPC-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	2023
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	19.1077
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.58
Spacing Criterion (90-270)	0.58
Spacing Criterion (Diagonal)	0.68
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	3651	3651	3651
55	1344	1344	1344
65	529	529	529
75	237	237	237
85	192	192	192

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-OM-SPC-XX\_.IES

CANDELA TABULATION

	<u>0</u>
0.0	4093.946
0.5	4100.067
1.0	4112.309
1.5	4119.451
2.0	4136.794
2.5	4143.935
3.0	4156.177
3.5	4159.237
4.0	4150.056
4.5	4101.088
5.0	4052.119
5.5	4000.091
6.0	3916.437
6.5	3832.783
7.0	3744.028
7.5	3644.051
8.0	3527.751
8.5	3408.391
9.0	3284.951
9.5	3164.571
10.0	3053.372
10.5	2955.436
11.0	2870.761
11.5	2798.329
12.0	2726.917
12.5	2656.525
13.0	2589.194
13.5	2525.944
14.0	2468.814
14.5	2417.805
15.0	2371.898
15.5	2328.030
16.0	2285.183
16.5	2240.296
17.0	2194.388
17.5	2148.480
18.0	2106.653
18.5	2069.927
19.0	2032.181
19.5	1993.414
20.0	1950.567
20.5	1904.659
21.0	1857.731
21.5	1809.783
22.0	1758.775
22.5	1709.807
23.0	1657.778
23.5	1604.729
24.0	1549.640
24.5	1494.551
25.0	1440.482
25.5	1386.412
26.0	1336.424
26.5	1288.476

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-OM-SPC-XX\_.IES**

**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	1243.589
<b>27.5</b>	1200.741
<b>28.0</b>	1161.975
<b>28.5</b>	1127.289
<b>29.0</b>	1094.644
<b>29.5</b>	1063.018
<b>30.0</b>	1023.232
<b>30.5</b>	973.447
<b>31.0</b>	916.318
<b>31.5</b>	853.475
<b>32.0</b>	789.714
<b>32.5</b>	725.546
<b>33.0</b>	661.377
<b>33.5</b>	594.046
<b>34.0</b>	525.694
<b>34.5</b>	463.362
<b>35.0</b>	403.478
<b>35.5</b>	346.960
<b>36.0</b>	292.585
<b>36.5</b>	243.923
<b>37.0</b>	204.034
<b>37.5</b>	175.980
<b>38.0</b>	160.881
<b>38.5</b>	150.679
<b>39.0</b>	140.478
<b>39.5</b>	129.664
<b>40.0</b>	118.136
<b>40.5</b>	105.894
<b>41.0</b>	94.162
<b>41.5</b>	83.246
<b>42.0</b>	73.962
<b>42.5</b>	66.617
<b>43.0</b>	60.904
<b>43.5</b>	56.517
<b>44.0</b>	52.845
<b>44.5</b>	49.886
<b>45.0</b>	47.132
<b>45.5</b>	44.786
<b>46.0</b>	42.541
<b>46.5</b>	40.501
<b>47.0</b>	38.460
<b>47.5</b>	36.522
<b>48.0</b>	34.584
<b>48.5</b>	32.645
<b>49.0</b>	30.707
<b>49.5</b>	28.973
<b>50.0</b>	27.341
<b>50.5</b>	25.708
<b>51.0</b>	24.178
<b>51.5</b>	22.648
<b>52.0</b>	21.118
<b>52.5</b>	19.791
<b>53.0</b>	18.465
<b>53.5</b>	17.241
<b>54.0</b>	16.119
<b>54.5</b>	15.099

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-OM-SPC-XX\_.IES

CANDELA TABULATION - (Cont.)

55.0	14.078
55.5	13.262
56.0	12.344
56.5	11.630
57.0	10.916
57.5	10.202
58.0	9.590
58.5	8.978
59.0	8.467
59.5	7.957
60.0	7.447
60.5	6.937
61.0	6.529
61.5	6.121
62.0	5.815
62.5	5.509
63.0	5.101
63.5	4.897
64.0	4.591
64.5	4.285
65.0	4.081
65.5	3.775
66.0	3.571
66.5	3.367
67.0	3.163
67.5	2.958
68.0	2.856
68.5	2.652
69.0	2.448
69.5	2.346
70.0	2.244
70.5	2.040
71.0	1.938
71.5	1.836
72.0	1.734
72.5	1.632
73.0	1.530
73.5	1.428
74.0	1.326
74.5	1.224
75.0	1.122
75.5	1.122
76.0	1.020
76.5	0.918
77.0	0.918
77.5	0.816
78.0	0.816
78.5	0.714
79.0	0.714
79.5	0.612
80.0	0.612
80.5	0.510
81.0	0.510
81.5	0.510
82.0	0.408
82.5	0.408

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-OM-SPC-XX\_.IES

CANDELA TABULATION - (Cont.)

83.0	0.408
83.5	0.306
84.0	0.306
84.5	0.306
85.0	0.306
85.5	0.204
86.0	0.204
86.5	0.204
87.0	0.204
87.5	0.204
88.0	0.102
88.5	0.102
89.0	0.102
89.5	0.102
90.0	0.102
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-L20-835-XXX-DIM-UNV-OM-SPC-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-L20-835-XXX-DIM-UNV-OM-SPC-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

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-L20-835-XXX-DIM-UNV-OM-SPC-XX\_.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1020.95	N.A.	50.50
0-30	1682.28	N.A.	83.20
0-40	1962.13	N.A.	97.00
0-60	2017.13	N.A.	99.70
0-80	2022.66	N.A.	100.00
0-90	2022.98	N.A.	100.00
10-90	1670.23	N.A.	82.60
20-40	941.18	N.A.	46.50
20-50	982.66	N.A.	48.60
40-70	59.22	N.A.	2.90
60-80	5.54	N.A.	0.30
70-80	1.31	N.A.	0.10
80-90	0.31	N.A.	0.00
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	2022.98	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	352.74
10-20	668.21
20-30	661.33
30-40	279.85
40-50	41.48
50-60	13.51
60-70	4.23
70-80	1.31
80-90	0.31
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

IES INDOOR REPORT  
 PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-OM-SPC-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	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84
4	100	93	88	84	98	92	88	84	90	86	83	88	85	82	86	83	81	80
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	72
7	88	80	74	70	87	79	74	70	78	73	70	77	73	70	75	72	69	68
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	62
10	78	69	64	60	77	69	64	60	68	63	60	67	63	60	66	63	60	59

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-OM-SPC-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

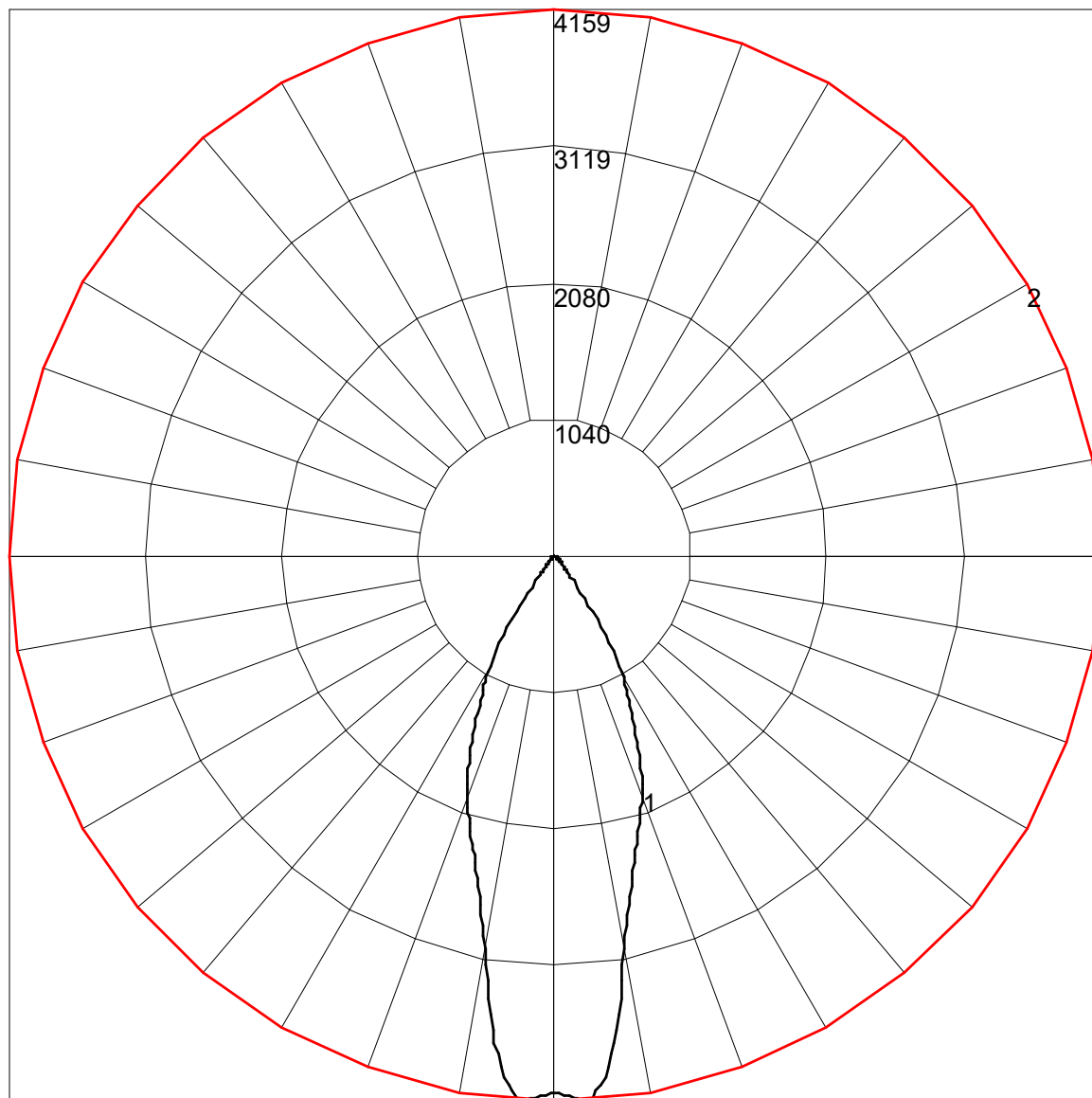
X=2H	Y=2H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	3H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

### UGR Viewed Endwise

4H	2H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	3H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
8H	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	12H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
12H	4H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	6H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	8H	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Maximum UGR = 2.5

POLAR GRAPH



Maximum Candela = 4159.237 Located At Horizontal Angle = 0, Vertical Angle = 3.5

# 1 - Vertical Plane Through Horizontal Angles (90 - 270)

# 2 - Horizontal Cone Through Vertical Angle (3.5) (Through Max. Cd.)