



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-RW-WH-AD-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.16

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 1-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L20-835-xxx-DIM-UNV-RW-WH-AD-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	1282
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	67
Total Luminaire Watts	19.0783
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.20
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	24669	24669	24669
55	17947	17947	17947
65	13590	13590	13590
75	8033	8033	8033
85	6067	6067	6067

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-RW-WH-AD-XX_.IES****CANDELA TABULATION**

	<u>0</u>
0.0	646.10
0.5	646.10
1.0	645.80
1.5	645.30
2.0	644.70
2.5	644.00
3.0	643.10
3.5	642.10
4.0	641.10
4.5	640.20
5.0	639.20
5.5	638.30
6.0	637.30
6.5	636.30
7.0	635.20
7.5	634.00
8.0	632.90
8.5	631.70
9.0	630.40
9.5	629.10
10.0	627.70
10.5	626.30
11.0	624.70
11.5	623.10
12.0	621.40
12.5	619.60
13.0	617.70
13.5	615.80
14.0	613.70
14.5	611.50
15.0	609.20
15.5	606.90
16.0	604.50
16.5	602.10
17.0	599.80
17.5	597.30
18.0	594.90
18.5	592.40
19.0	589.80
19.5	587.20
20.0	584.60
20.5	581.80
21.0	579.00
21.5	575.90
22.0	572.70
22.5	569.10
23.0	565.40
23.5	561.50
24.0	557.30
24.5	553.00
25.0	548.50
25.5	543.90
26.0	539.10
26.5	534.30

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27.0	529.30
27.5	524.30
28.0	519.20
28.5	514.10
29.0	509.00
29.5	503.70
30.0	498.40
30.5	492.90
31.0	487.40
31.5	481.60
32.0	475.90
32.5	469.90
33.0	463.80
33.5	457.60
34.0	451.20
34.5	444.70
35.0	438.00
35.5	431.30
36.0	424.30
36.5	417.40
37.0	410.30
37.5	403.20
38.0	396.00
38.5	388.80
39.0	381.50
39.5	374.10
40.0	366.70
40.5	359.20
41.0	351.70
41.5	344.30
42.0	336.80
42.5	329.30
43.0	321.90
43.5	314.40
44.0	307.00
44.5	299.60
45.0	292.30
45.5	285.00
46.0	277.80
46.5	270.70
47.0	263.70
47.5	256.80
48.0	250.00
48.5	243.30
49.0	236.80
49.5	230.40
50.0	224.30
50.5	218.30
51.0	212.60
51.5	207.20
52.0	201.90
52.5	196.60
53.0	191.50
53.5	186.50
54.0	181.70
54.5	177.00

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-RW-WH-AD-XX_.IES****CANDELA TABULATION - (Cont.)**

55.0	172.50
55.5	168.30
56.0	164.10
56.5	159.90
57.0	155.70
57.5	151.70
58.0	147.80
58.5	143.90
59.0	140.10
59.5	136.30
60.0	132.60
60.5	128.90
61.0	125.20
61.5	121.60
62.0	118.00
62.5	114.30
63.0	110.70
63.5	107.10
64.0	103.50
64.5	99.89
65.0	96.24
65.5	92.63
66.0	89.01
66.5	85.45
67.0	81.89
67.5	78.36
68.0	74.88
68.5	71.44
69.0	68.05
69.5	64.72
70.0	61.44
70.5	58.25
71.0	55.14
71.5	52.10
72.0	49.16
72.5	46.38
73.0	43.80
73.5	41.36
74.0	39.08
74.5	36.91
75.0	34.84
75.5	32.92
76.0	31.12
76.5	29.54
77.0	28.11
77.5	26.70
78.0	25.32
78.5	23.97
79.0	22.67
79.5	21.38
80.0	20.13
80.5	18.90
81.0	17.70
81.5	16.52
82.0	15.36
82.5	14.21

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 8CR-TL-L20-835-XXX-DIM-UNV-RW-WH-AD-XX_.IES****CANDELA TABULATION - (Cont.)**

83.0	13.09
83.5	12.00
84.0	10.94
84.5	9.88
85.0	8.86
85.5	7.85
86.0	6.87
86.5	5.92
87.0	4.99
87.5	4.07
88.0	3.27
88.5	2.61
89.0	2.04
89.5	1.57
90.0	1.14
90.5	0.00
91.0	0.00
91.5	0.00
92.0	0.00
92.5	0.00
93.0	0.00
93.5	0.00
94.0	0.00
94.5	0.00
95.0	0.00
95.5	0.00
96.0	0.00
96.5	0.00
97.0	0.00
97.5	0.00
98.0	0.00
98.5	0.00
99.0	0.00
99.5	0.00
100.0	0.00
100.5	0.00
101.0	0.00
101.5	0.00
102.0	0.00
102.5	0.00
103.0	0.00
103.5	0.00
104.0	0.00
104.5	0.00
105.0	0.00
105.5	0.00
106.0	0.00
106.5	0.00
107.0	0.00
107.5	0.00
108.0	0.00
108.5	0.00
109.0	0.00
109.5	0.00
110.0	0.00
110.5	0.00

CANDELA TABULATION - (Cont.)

111.0	0.00
111.5	0.00
112.0	0.00
112.5	0.00
113.0	0.00
113.5	0.00
114.0	0.00
114.5	0.00
115.0	0.00
115.5	0.00
116.0	0.00
116.5	0.00
117.0	0.00
117.5	0.00
118.0	0.00
118.5	0.00
119.0	0.00
119.5	0.00
120.0	0.00
120.5	0.00
121.0	0.00
121.5	0.00
122.0	0.00
122.5	0.00
123.0	0.00
123.5	0.00
124.0	0.00
124.5	0.00
125.0	0.00
125.5	0.00
126.0	0.00
126.5	0.00
127.0	0.00
127.5	0.00
128.0	0.00
128.5	0.00
129.0	0.00
129.5	0.00
130.0	0.00
130.5	0.00
131.0	0.00
131.5	0.00
132.0	0.00
132.5	0.00
133.0	0.00
133.5	0.00
134.0	0.00
134.5	0.00
135.0	0.00
135.5	0.00
136.0	0.00
136.5	0.00
137.0	0.00
137.5	0.00
138.0	0.00
138.5	0.00

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139.0	0.00
139.5	0.00
140.0	0.00
140.5	0.00
141.0	0.00
141.5	0.00
142.0	0.00
142.5	0.00
143.0	0.00
143.5	0.00
144.0	0.00
144.5	0.00
145.0	0.00
145.5	0.00
146.0	0.00
146.5	0.00
147.0	0.00
147.5	0.00
148.0	0.00
148.5	0.00
149.0	0.00
149.5	0.00
150.0	0.00
150.5	0.00
151.0	0.00
151.5	0.00
152.0	0.00
152.5	0.00
153.0	0.00
153.5	0.00
154.0	0.00
154.5	0.00
155.0	0.00
155.5	0.00
156.0	0.00
156.5	0.00
157.0	0.00
157.5	0.00
158.0	0.00
158.5	0.00
159.0	0.00
159.5	0.00
160.0	0.00
160.5	0.00
161.0	0.00
161.5	0.00
162.0	0.00
162.5	0.00
163.0	0.00
163.5	0.00
164.0	0.00
164.5	0.00
165.0	0.00
165.5	0.00
166.0	0.00
166.5	0.00

CANDELA TABULATION - (Cont.)

167.0	0.00
167.5	0.00
168.0	0.00
168.5	0.00
169.0	0.00
169.5	0.00
170.0	0.00
170.5	0.00
171.0	0.00
171.5	0.00
172.0	0.00
172.5	0.00
173.0	0.00
173.5	0.00
174.0	0.00
174.5	0.00
175.0	0.00
175.5	0.00
176.0	0.00
176.5	0.00
177.0	0.00
177.5	0.00
178.0	0.00
178.5	0.00
179.0	0.00
179.5	0.00
180.0	0.00

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Zone	Lumens	%Lamp	%Fixt
0-20	232.39	N.A.	18.10
0-30	483.91	N.A.	37.70
0-40	756.16	N.A.	59.00
0-60	1137.53	N.A.	88.70
0-80	1271.73	N.A.	99.20
0-90	1281.92	N.A.	100.00
10-90	1221.25	N.A.	95.30
20-40	523.77	N.A.	40.90
20-50	749.31	N.A.	58.50
40-70	476.62	N.A.	37.20
60-80	134.20	N.A.	10.50
70-80	38.95	N.A.	3.00
80-90	10.19	N.A.	0.80
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	1281.95	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	60.66
10-20	171.73
20-30	251.52
30-40	272.25
40-50	225.55
50-60	155.82
60-70	95.25
70-80	38.95
80-90	10.19
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

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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	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88
2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78	76
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58
5	81	70	61	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42
8	66	53	45	40	64	53	45	40	51	45	40	50	44	40	49	43	39	38
9	62	49	42	36	60	49	41	36	48	41	36	47	40	36	46	40	36	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31

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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

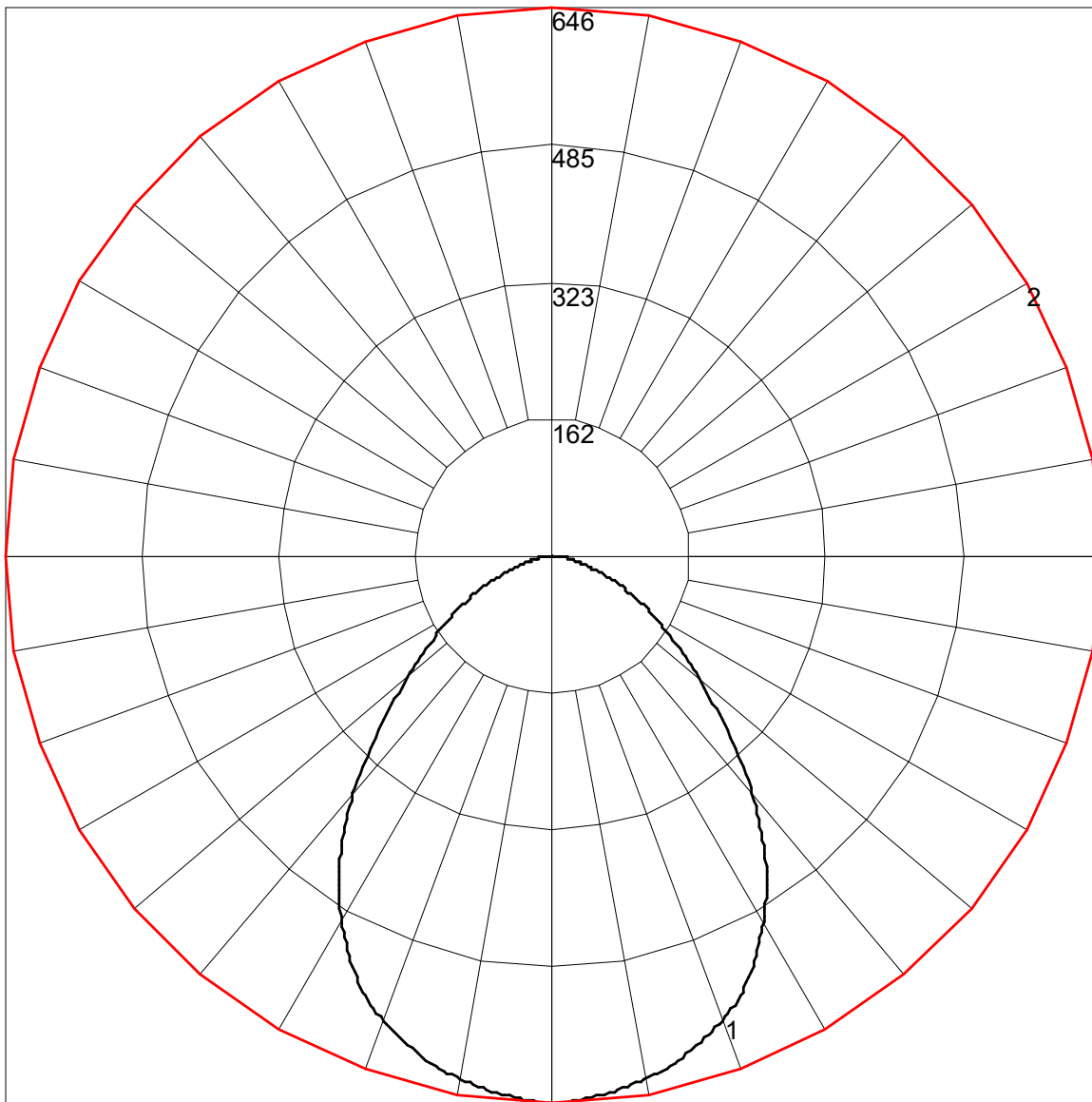
X=2H	Y=2H	20.2	21.7	20.6	22.0	22.3	20.2	21.7	20.6	22.0	22.3
	3H	21.3	22.6	21.7	23.0	23.3	21.3	22.6	21.7	23.0	23.3
	4H	21.6	22.8	22.0	23.2	23.5	21.6	22.8	22.0	23.2	23.5
	6H	21.8	22.9	22.2	23.3	23.7	21.8	22.9	22.2	23.3	23.7
	8H	21.8	22.9	22.3	23.3	23.7	21.8	22.9	22.3	23.3	23.7
	12H	21.9	22.9	22.3	23.3	23.7	21.9	22.9	22.3	23.3	23.7

UGR Viewed Endwise

4H	2H	20.6	21.9	21.0	22.2	22.6	20.6	21.9	21.0	22.2	22.6
	3H	21.9	22.9	22.3	23.3	23.7	21.9	22.9	22.3	23.3	23.7
	4H	22.3	23.1	22.7	23.6	24.0	22.3	23.1	22.7	23.6	24.0
	6H	22.5	23.3	23.0	23.7	24.2	22.5	23.3	23.0	23.7	24.2
	8H	22.6	23.3	23.1	23.8	24.2	22.6	23.3	23.1	23.8	24.2
	12H	22.7	23.3	23.1	23.8	24.2	22.7	23.3	23.1	23.8	24.2
8H	4H	22.3	23.1	22.8	23.5	24.0	22.3	23.1	22.8	23.5	24.0
	6H	22.7	23.3	23.2	23.8	24.3	22.7	23.3	23.2	23.8	24.3
	8H	22.8	23.3	23.3	23.9	24.3	22.8	23.3	23.3	23.9	24.3
	12H	22.9	23.4	23.4	23.9	24.5	22.9	23.4	23.4	23.9	24.5
12H	4H	22.3	23.0	22.8	23.5	23.9	22.3	23.0	22.8	23.5	23.9
	6H	22.7	23.2	23.2	23.7	24.2	22.7	23.2	23.2	23.7	24.2
	8H	22.9	23.3	23.4	23.8	24.4	22.9	23.3	23.4	23.8	24.4

Maximum UGR = 24.5

POLAR GRAPH



Maximum Candela = 646.1 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.)