



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-RW-WH-AD-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12316380.16

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 27-JAN-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 6CR-TL-L20-835-xxx-DIM-UNV-RW-WH-AD-xx

[LUMINAIRE] 6" DIA. SURFACE CYLINDER

[LAMP] One white LED

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight

[\_SEARCH\_MOUNTING] Surface

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1127
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	57
Total Luminaire Watts	19.7491
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.22
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 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	35347	35347	35347
55	25870	25870	25870
65	18597	18597	18597
75	11079	11079	11079
85	8479	8479	8479

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CANDELA TABULATION

	<u>0</u>
0.0	564.20
0.5	564.10
1.0	563.80
1.5	563.40
2.0	562.90
2.5	562.30
3.0	561.50
3.5	560.70
4.0	559.90
4.5	559.20
5.0	558.40
5.5	557.70
6.0	556.90
6.5	556.10
7.0	555.20
7.5	554.30
8.0	553.40
8.5	552.40
9.0	551.40
9.5	550.40
10.0	549.20
10.5	548.20
11.0	547.00
11.5	545.70
12.0	544.40
12.5	542.90
13.0	541.50
13.5	539.90
14.0	538.30
14.5	536.50
15.0	534.60
15.5	532.80
16.0	530.90
16.5	529.00
17.0	527.00
17.5	525.00
18.0	523.10
18.5	521.20
19.0	519.20
19.5	517.30
20.0	515.30
20.5	513.20
21.0	511.00
21.5	508.80
22.0	506.30
22.5	503.50
23.0	500.50
23.5	497.30
24.0	494.00
24.5	490.50
25.0	486.90
25.5	483.10
26.0	479.10
26.5	475.00

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-RW-WH-AD-XX\_.IES****CANDELA TABULATION - (Cont.)**

27.0	470.80
27.5	466.60
28.0	462.20
28.5	457.90
29.0	453.40
29.5	449.00
30.0	444.30
30.5	439.60
31.0	434.60
31.5	429.60
32.0	424.40
32.5	419.00
33.0	413.60
33.5	408.00
34.0	402.30
34.5	396.50
35.0	390.60
35.5	384.40
36.0	378.10
36.5	371.80
37.0	365.30
37.5	358.80
38.0	352.40
38.5	345.60
39.0	338.90
39.5	332.10
40.0	325.20
40.5	318.20
41.0	311.30
41.5	304.40
42.0	297.50
42.5	290.60
43.0	283.70
43.5	276.90
44.0	270.10
44.5	263.30
45.0	256.70
45.5	250.20
46.0	243.70
46.5	237.30
47.0	231.20
47.5	225.10
48.0	219.10
48.5	213.30
49.0	208.00
49.5	202.70
50.0	197.40
50.5	192.30
51.0	187.20
51.5	182.30
52.0	177.60
52.5	173.30
53.0	169.20
53.5	164.80
54.0	160.60
54.5	156.40

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<b>55.0</b>	152.40
<b>55.5</b>	148.40
<b>56.0</b>	144.50
<b>56.5</b>	140.70
<b>57.0</b>	137.00
<b>57.5</b>	133.30
<b>58.0</b>	129.60
<b>58.5</b>	126.00
<b>59.0</b>	122.40
<b>59.5</b>	118.90
<b>60.0</b>	115.40
<b>60.5</b>	111.90
<b>61.0</b>	108.40
<b>61.5</b>	104.80
<b>62.0</b>	101.40
<b>62.5</b>	97.91
<b>63.0</b>	94.46
<b>63.5</b>	90.98
<b>64.0</b>	87.54
<b>64.5</b>	84.13
<b>65.0</b>	80.72
<b>65.5</b>	77.35
<b>66.0</b>	73.99
<b>66.5</b>	70.69
<b>67.0</b>	67.44
<b>67.5</b>	64.25
<b>68.0</b>	61.13
<b>68.5</b>	58.06
<b>69.0</b>	55.06
<b>69.5</b>	52.16
<b>70.0</b>	49.36
<b>70.5</b>	46.68
<b>71.0</b>	44.26
<b>71.5</b>	42.04
<b>72.0</b>	39.91
<b>72.5</b>	37.86
<b>73.0</b>	35.89
<b>73.5</b>	34.03
<b>74.0</b>	32.32
<b>74.5</b>	30.82
<b>75.0</b>	29.45
<b>75.5</b>	28.13
<b>76.0</b>	26.82
<b>76.5</b>	25.55
<b>77.0</b>	24.30
<b>77.5</b>	23.07
<b>78.0</b>	21.86
<b>78.5</b>	20.68
<b>79.0</b>	19.53
<b>79.5</b>	18.42
<b>80.0</b>	17.32
<b>80.5</b>	16.25
<b>81.0</b>	15.21
<b>81.5</b>	14.18
<b>82.0</b>	13.18
<b>82.5</b>	12.19

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CANDELA TABULATION - (Cont.)

83.0	11.23
83.5	10.29
84.0	9.37
84.5	8.47
85.0	7.59
85.5	6.73
86.0	5.89
86.5	5.06
87.0	4.26
87.5	3.46
88.0	2.74
88.5	2.22
89.0	1.80
89.5	1.41
90.0	1.04
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-RW-WH-AD-XX\_.IES****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

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**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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6CR-TL-L20-835-XXX-DIM-UNV-RW-WH-AD-XX\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	203.81	N.A.	18.10
0-30	427.00	N.A.	37.90
0-40	669.51	N.A.	59.40
0-60	1005.16	N.A.	89.20
0-80	1117.75	N.A.	99.20
0-90	1126.5	N.A.	100.00
10-90	1073.47	N.A.	95.30
20-40	465.70	N.A.	41.30
20-50	664.23	N.A.	59.00
40-70	415.84	N.A.	36.90
60-80	112.59	N.A.	10.00
70-80	32.40	N.A.	2.90
80-90	8.74	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	1126.53	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	53.02
10-20	150.79
20-30	223.19
30-40	242.51
40-50	198.53
50-60	137.12
60-70	80.19
70-80	32.40
80-90	8.74
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	90	85	100	93	88	84	90	86	82	87	83	80	84	81	78	76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	61	59
5	81	70	62	56	79	69	61	55	67	60	55	65	59	54	63	58	54	52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46
7	70	58	50	45	69	57	50	44	56	49	44	54	48	44	53	48	44	42
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34
10	58	46	38	34	57	45	38	33	44	38	33	43	37	33	43	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

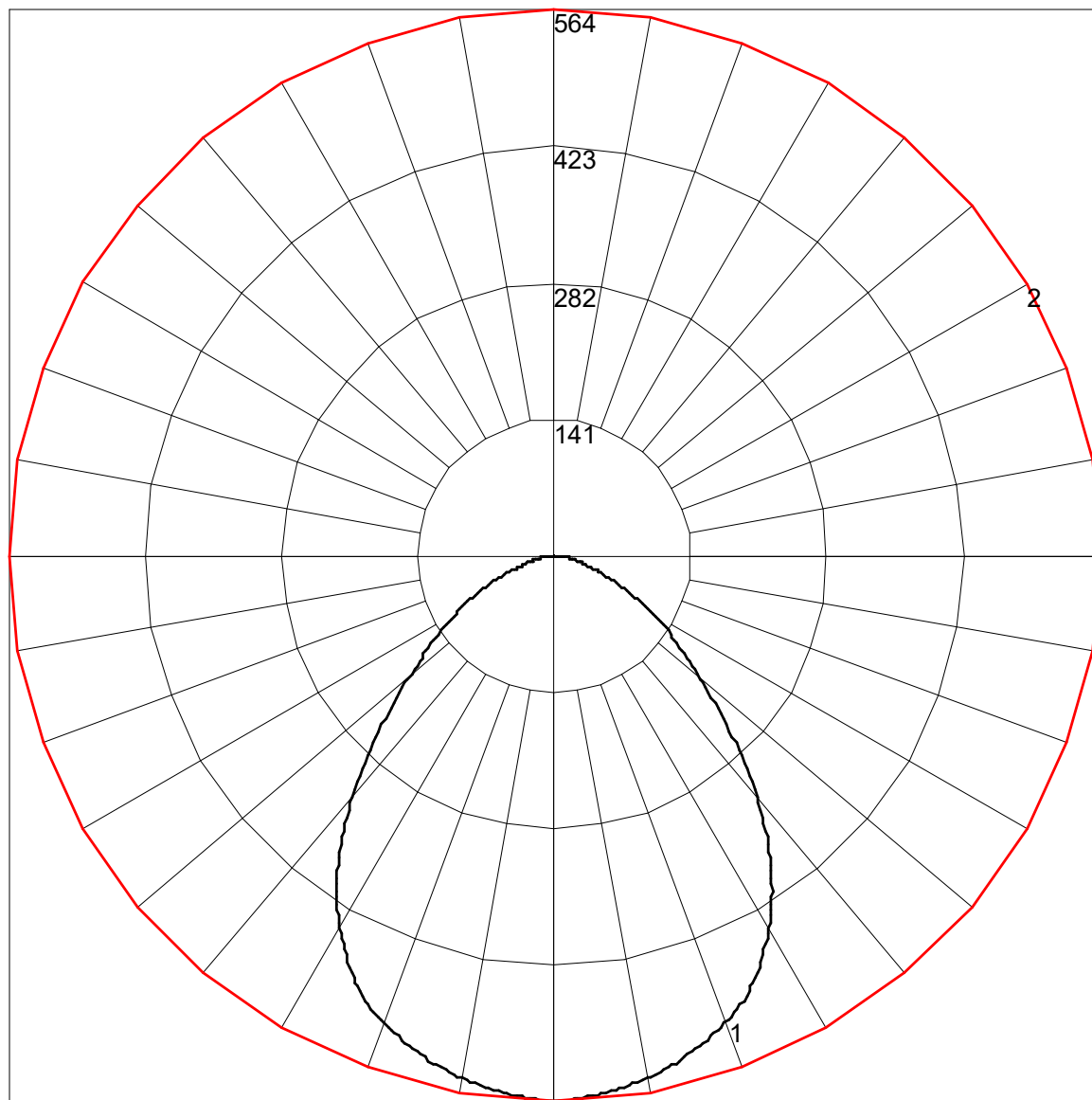
X=2H	Y=2H	21.4	22.9	21.8	23.2	23.5	21.4	22.9	21.8	23.2	23.5
	3H	22.4	23.7	22.8	24.0	24.4	22.4	23.7	22.8	24.0	24.4
	4H	22.6	23.8	23.0	24.2	24.6	22.6	23.8	23.0	24.2	24.6
	6H	22.8	23.9	23.2	24.3	24.7	22.8	23.9	23.2	24.3	24.7
	8H	22.9	23.9	23.3	24.3	24.7	22.9	23.9	23.3	24.3	24.7
	12H	22.9	23.9	23.3	24.3	24.7	22.9	23.9	23.3	24.3	24.7

### UGR Viewed Endwise

4H	2H	21.8	23.0	22.2	23.4	23.7	21.8	23.0	22.2	23.4	23.7
	3H	22.9	23.9	23.3	24.3	24.7	22.9	23.9	23.3	24.3	24.7
	4H	23.2	24.1	23.7	24.5	25.0	23.2	24.1	23.7	24.5	25.0
	6H	23.5	24.3	24.0	24.7	25.2	23.5	24.3	24.0	24.7	25.2
	8H	23.6	24.3	24.0	24.7	25.2	23.6	24.3	24.0	24.7	25.2
	12H	23.6	24.3	24.1	24.8	25.2	23.6	24.3	24.1	24.8	25.2
8H	4H	23.3	24.0	23.8	24.5	24.9	23.3	24.0	23.8	24.5	24.9
	6H	23.7	24.3	24.2	24.7	25.2	23.7	24.3	24.2	24.7	25.2
	8H	23.8	24.3	24.3	24.8	25.3	23.8	24.3	24.3	24.8	25.3
	12H	23.9	24.4	24.4	24.9	25.4	23.9	24.4	24.4	24.9	25.4
12H	4H	23.3	23.9	23.8	24.4	24.9	23.3	23.9	23.8	24.4	24.9
	6H	23.7	24.2	24.2	24.7	25.2	23.7	24.2	24.2	24.7	25.2
	8H	23.8	24.3	24.3	24.8	25.4	23.8	24.3	24.3	24.8	25.4

Maximum UGR = 25.4

POLAR GRAPH



Maximum Candela = 564.2 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.)