



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L23-8TW-XXX-DIM-UNV-RW-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12326812.12
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 29-JAN-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 8CR-TL-L23-8TW-xxx-DIM-UNV-RW-WH-xx_4000k
 [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	1900
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	79
Total Luminaire Watts	24
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	25656	25656	25656
55	21396	21396	21396
65	15095	15095	15095
75	9247	9247	9247
85	7293	7293	7293

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 8CR-TL-L23-8TW-XXX-DIM-UNV-RW-WH-XX_.IES

CANDELA TABULATION

	<u>0</u>
0.0	1405.606
0.5	1404.291
1.0	1402.976
1.5	1401.661
2.0	1399.031
2.5	1395.087
3.0	1391.142
3.5	1385.882
4.0	1380.623
4.5	1376.678
5.0	1371.419
5.5	1366.159
6.0	1360.900
6.5	1355.640
7.0	1350.381
7.5	1345.121
8.0	1338.547
8.5	1333.287
9.0	1328.028
9.5	1321.453
10.0	1316.194
10.5	1309.751
11.0	1303.439
11.5	1297.128
12.0	1290.817
12.5	1284.637
13.0	1278.325
13.5	1271.751
14.0	1265.308
14.5	1258.997
15.0	1253.080
15.5	1247.031
16.0	1241.114
16.5	1235.329
17.0	1229.938
17.5	1224.547
18.0	1219.287
18.5	1214.291
19.0	1209.294
19.5	1204.166
20.0	1198.907
20.5	1193.253
21.0	1186.810
21.5	1179.446
22.0	1171.163
22.5	1161.959
23.0	1151.965
23.5	1140.657
24.0	1128.298
24.5	1114.754
25.0	1099.765
25.5	1083.592
26.0	1065.578
26.5	1045.855

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 8CR-TL-L23-8TW-XXX-DIM-UNV-RW-WH-XX_.IES

CANDELA TABULATION - (Cont.)

27.0	1024.817
27.5	1001.938
28.0	977.612
28.5	951.183
29.0	923.308
29.5	893.066
30.0	860.983
30.5	827.059
31.0	791.820
31.5	755.792
32.0	719.107
32.5	682.685
33.0	646.657
33.5	611.813
34.0	578.415
34.5	546.990
35.0	518.325
35.5	492.028
36.0	468.886
36.5	448.374
37.0	430.360
37.5	414.976
38.0	401.433
38.5	389.467
39.0	379.080
39.5	369.875
40.0	361.460
40.5	353.834
41.0	346.734
41.5	340.291
42.0	334.374
42.5	328.720
43.0	323.329
43.5	318.201
44.0	313.336
44.5	308.734
45.0	304.000
45.5	299.529
46.0	294.927
46.5	290.457
47.0	285.855
47.5	281.253
48.0	276.519
48.5	271.785
49.0	267.315
49.5	262.713
50.0	257.848
50.5	252.851
51.0	247.723
51.5	242.595
52.0	237.467
52.5	232.208
53.0	227.080
53.5	222.083
54.0	216.561
54.5	211.038

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 8CR-TL-L23-8TW-XXX-DIM-UNV-RW-WH-XX_.IES

CANDELA TABULATION - (Cont.)

55.0	205.647
55.5	200.125
56.0	194.734
56.5	189.343
57.0	183.952
57.5	178.561
58.0	173.433
58.5	168.173
59.0	163.045
59.5	158.048
60.0	153.052
60.5	148.055
61.0	143.190
61.5	138.457
62.0	133.723
62.5	129.121
63.0	124.519
63.5	119.917
64.0	115.578
64.5	111.107
65.0	106.900
65.5	102.561
66.0	98.484
66.5	94.408
67.0	90.464
67.5	86.519
68.0	82.706
68.5	78.893
69.0	75.343
69.5	71.661
70.0	68.242
70.5	64.824
71.0	61.536
71.5	58.381
72.0	55.225
72.5	52.332
73.0	49.571
73.5	47.073
74.0	44.574
74.5	42.339
75.0	40.104
75.5	38.131
76.0	36.159
76.5	34.450
77.0	32.872
77.5	31.294
78.0	29.716
78.5	28.138
79.0	26.692
79.5	25.246
80.0	23.799
80.5	22.353
81.0	20.907
81.5	19.592
82.0	18.145
82.5	16.830

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 8CR-TL-L23-8TW-XXX-DIM-UNV-RW-WH-XX_.IES

CANDELA TABULATION - (Cont.)

83.0	15.516
83.5	14.332
84.0	13.017
84.5	11.834
85.0	10.651
85.5	9.467
86.0	8.284
86.5	7.100
87.0	6.048
87.5	4.865
88.0	3.945
88.5	3.156
89.0	2.498
89.5	1.841
90.0	1.315
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-L23-8TW-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-L23-8TW-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-L23-8TW-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-L23-8TW-XXX-DIM-UNV-RW-WH-XX_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	482.99	N.A.	25.40
0-30	976.43	N.A.	51.40
0-40	1317.82	N.A.	69.40
0-60	1736.76	N.A.	91.40
0-80	1888.01	N.A.	99.40
0-90	1900.14	N.A.	100.00
10-90	1771.02	N.A.	93.20
20-40	834.83	N.A.	43.90
20-50	1070.37	N.A.	56.30
40-70	525.69	N.A.	27.70
60-80	151.24	N.A.	8.00
70-80	44.50	N.A.	2.30
80-90	12.13	N.A.	0.60
90-110	0.04	N.A.	0.00
90-120	0.04	N.A.	0.00
90-130	0.04	N.A.	0.00
90-150	0.04	N.A.	0.00
90-180	0.04	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1900.17	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	129.12
10-20	353.87
20-30	493.43
30-40	341.39
40-50	235.54
50-60	183.40
60-70	106.74
70-80	44.50
80-90	12.13
90-100	0.04
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

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-L23-8TW-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	20.1	21.4	20.4	21.7	22.0	20.1	21.4	20.4	21.7	22.0
	3H	21.0	22.2	21.4	22.5	22.9	21.0	22.2	21.4	22.5	22.9
	4H	21.3	22.4	21.7	22.7	23.1	21.3	22.4	21.7	22.7	23.1
	6H	21.4	22.5	21.9	22.8	23.2	21.4	22.5	21.9	22.8	23.2
	8H	21.5	22.5	21.9	22.9	23.3	21.5	22.5	21.9	22.9	23.3
	12H	21.5	22.4	22.0	22.8	23.3	21.5	22.4	22.0	22.8	23.3

UGR Viewed Endwise

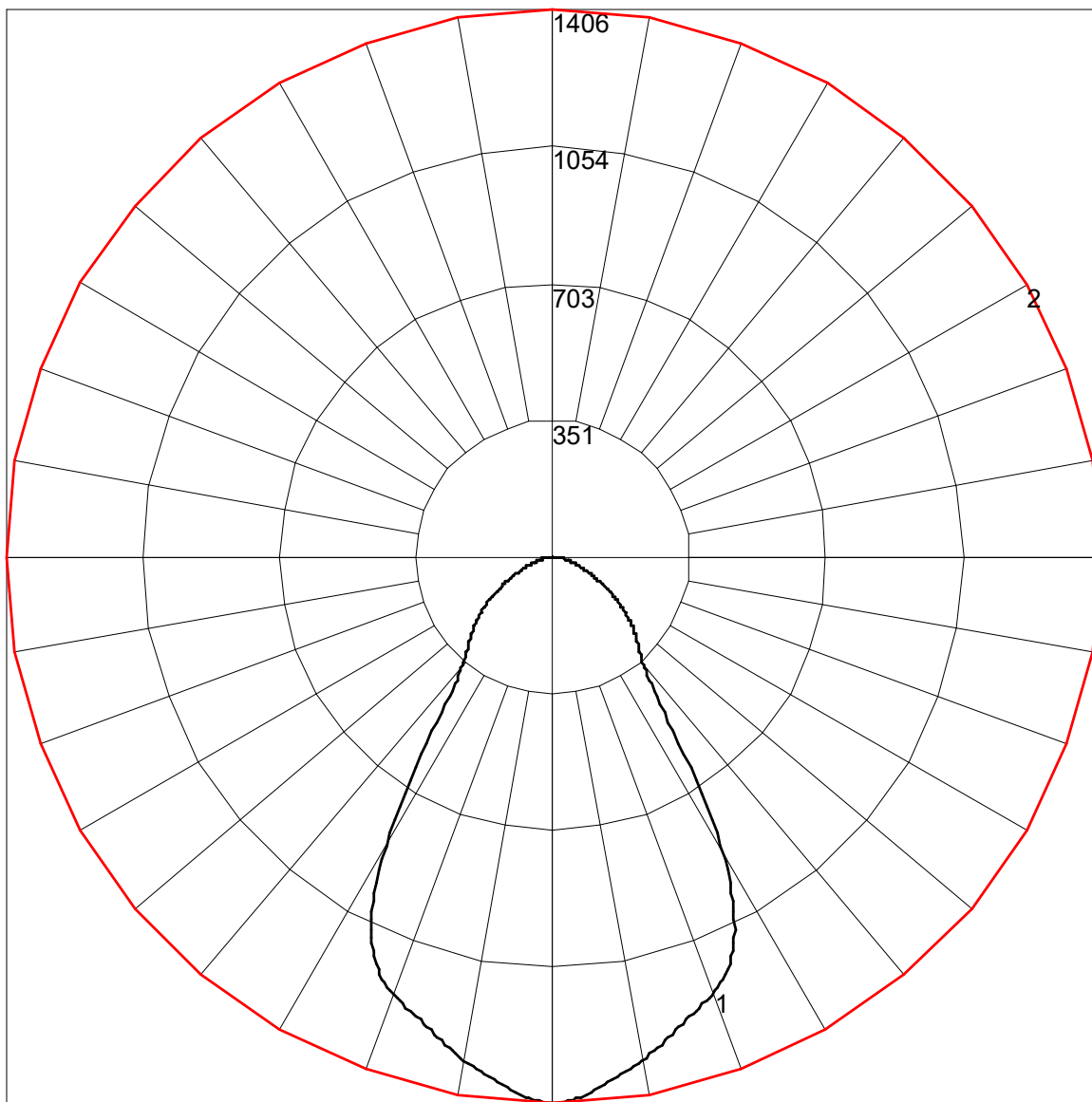
4H	2H	20.4	21.5	20.8	21.8	22.2	20.4	21.5	20.8	21.8	22.2
	3H	21.5	22.4	21.9	22.8	23.2	21.5	22.4	21.9	22.8	23.2
	4H	21.9	22.7	22.3	23.1	23.5	21.9	22.7	22.3	23.1	23.5
	6H	22.1	22.8	22.6	23.3	23.7	22.1	22.8	22.6	23.3	23.7
	8H	22.2	22.8	22.7	23.3	23.8	22.2	22.8	22.7	23.3	23.8
	12H	22.3	22.8	22.7	23.3	23.8	22.3	22.8	22.7	23.3	23.8

8H	4H	21.9	22.6	22.4	23.0	23.5	21.9	22.6	22.4	23.0	23.5
	6H	22.3	22.8	22.8	23.3	23.8	22.3	22.8	22.8	23.3	23.8
	8H	22.4	22.9	22.9	23.4	23.9	22.4	22.9	22.9	23.4	23.9
	12H	22.5	22.9	23.0	23.4	24.0	22.5	22.9	23.0	23.4	24.0

12H	4H	21.9	22.5	22.4	23.0	23.5	21.9	22.5	22.4	23.0	23.5
	6H	22.3	22.8	22.8	23.2	23.8	22.3	22.8	22.8	23.2	23.8
	8H	22.4	22.9	23.0	23.4	23.9	22.4	22.9	23.0	23.4	23.9

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 1405.606 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.)