



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 8CR-TL-L20-840-XXX-DIM-UNV-LM-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12326812.09

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 29-JAN-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CR-TL-L20-840-xxx-DIM-UNV-LM-CS-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	1855
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	97
Total Luminaire Watts	19.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.60
Spacing Criterion (90-270)	0.60
Spacing Criterion (Diagonal)	0.56
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.46 ft (Diameter)
Luminous Width (90-270)	0.46 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	8287	8287	8287
55	6068	6068	6068
65	4944	4944	4944
75	4024	4024	4024
85	2647	2647	2647

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CANDELA TABULATION

	<u>0</u>
0.0	4380.508
0.5	4378.488
1.0	4372.430
1.5	4363.341
2.0	4351.224
2.5	4334.057
3.0	4314.871
3.5	4292.656
4.0	4266.401
4.5	4239.136
5.0	4208.842
5.5	4174.509
6.0	4137.147
6.5	4095.745
7.0	4051.314
7.5	4002.843
8.0	3949.324
8.5	3891.765
9.0	3831.177
9.5	3766.550
10.0	3696.874
10.5	3623.159
11.0	3544.395
11.5	3459.571
12.0	3371.719
12.5	3278.817
13.0	3181.877
13.5	3079.887
14.0	2974.868
14.5	2865.810
15.0	2754.732
15.5	2641.634
16.0	2528.537
16.5	2414.429
17.0	2303.352
17.5	2192.274
18.0	2080.186
18.5	1970.118
19.0	1861.060
19.5	1756.040
20.0	1654.051
20.5	1556.100
21.0	1464.209
21.5	1376.356
22.0	1288.504
22.5	1205.700
23.0	1126.936
23.5	1052.211
24.0	982.635
24.5	916.797
25.0	855.300
25.5	797.337
26.0	743.616
26.5	693.328

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CANDELA TABULATION - (Cont.)

27.0	646.574
27.5	603.254
28.0	562.862
28.5	525.499
29.0	490.863
29.5	458.550
30.0	428.660
30.5	400.789
31.0	374.938
31.5	350.905
32.0	328.488
32.5	307.686
33.0	288.298
33.5	270.222
34.0	253.561
34.5	238.111
35.0	223.670
35.5	210.442
36.0	198.123
36.5	186.914
37.0	176.513
37.5	167.021
38.0	158.437
38.5	150.460
39.0	143.189
39.5	136.525
40.0	130.466
40.5	124.811
41.0	119.661
41.5	114.915
42.0	110.472
42.5	106.433
43.0	102.596
43.5	99.061
44.0	95.830
44.5	92.700
45.0	89.771
45.5	87.045
46.0	84.520
46.5	82.097
47.0	79.774
47.5	77.553
48.0	75.533
48.5	73.513
49.0	71.595
49.5	69.777
50.0	68.060
50.5	66.344
51.0	64.728
51.5	63.112
52.0	61.598
52.5	60.184
53.0	58.669
53.5	57.256
54.0	55.943
54.5	54.630

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CANDELA TABULATION - (Cont.)

55.0	53.317
55.5	52.005
56.0	50.793
56.5	49.581
57.0	48.369
57.5	47.158
58.0	46.047
58.5	44.936
59.0	43.825
59.5	42.815
60.0	41.806
60.5	40.695
61.0	39.685
61.5	38.675
62.0	37.666
62.5	36.757
63.0	35.747
63.5	34.838
64.0	33.929
64.5	33.020
65.0	32.011
65.5	31.102
66.0	30.193
66.5	29.385
67.0	28.476
67.5	27.568
68.0	26.760
68.5	25.952
69.0	25.043
69.5	24.235
70.0	23.427
70.5	22.619
71.0	21.913
71.5	21.105
72.0	20.297
72.5	19.590
73.0	18.782
73.5	18.075
74.0	17.369
74.5	16.662
75.0	15.955
75.5	15.248
76.0	14.541
76.5	13.834
77.0	13.127
77.5	12.522
78.0	11.815
78.5	11.209
79.0	10.603
79.5	9.896
80.0	9.290
80.5	8.684
81.0	8.078
81.5	7.473
82.0	6.867
82.5	6.261

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CANDELA TABULATION - (Cont.)

83.0	5.756
83.5	5.150
84.0	4.645
84.5	4.039
85.0	3.534
85.5	3.029
86.0	2.524
86.5	2.121
87.0	1.717
87.5	1.414
88.0	1.111
88.5	0.909
89.0	0.707
89.5	0.505
90.0	0.303
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

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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
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128.5	0.000
129.0	0.000
129.5	0.000
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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

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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
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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

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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

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1126.61	N.A.	60.70
0-30	1534.63	N.A.	82.70
0-40	1683.00	N.A.	90.70
0-60	1802.26	N.A.	97.10
0-80	1851.07	N.A.	99.80
0-90	1855.38	N.A.	100.00
10-90	1469.63	N.A.	79.20
20-40	556.39	N.A.	30.00
20-50	627.62	N.A.	33.80
40-70	151.13	N.A.	8.10
60-80	48.81	N.A.	2.60
70-80	16.95	N.A.	0.90
80-90	4.31	N.A.	0.20
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1855.39	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	385.76
10-20	740.85
20-30	408.02
30-40	148.37
40-50	71.23
50-60	48.04
60-70	31.86
70-80	16.95
80-90	4.31
90-100	0.01
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	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	100	97	107	103	99	96	99	97	94	96	94	92	94	92	90	89
3	104	98	94	90	102	97	93	89	94	91	88	92	89	86	90	87	85	84
4	100	93	88	84	98	92	87	84	90	86	83	88	84	82	86	83	81	79
5	96	88	83	79	94	87	82	79	85	81	78	84	80	77	82	79	77	75
6	92	84	79	75	90	83	78	75	82	77	74	80	77	74	79	76	73	72
7	88	80	75	71	87	79	74	71	78	74	71	77	73	70	76	73	70	69
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66
9	82	74	68	65	81	73	68	65	72	68	65	71	67	64	71	67	64	63
10	79	71	66	62	78	70	65	62	69	65	62	69	65	62	68	64	62	61

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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

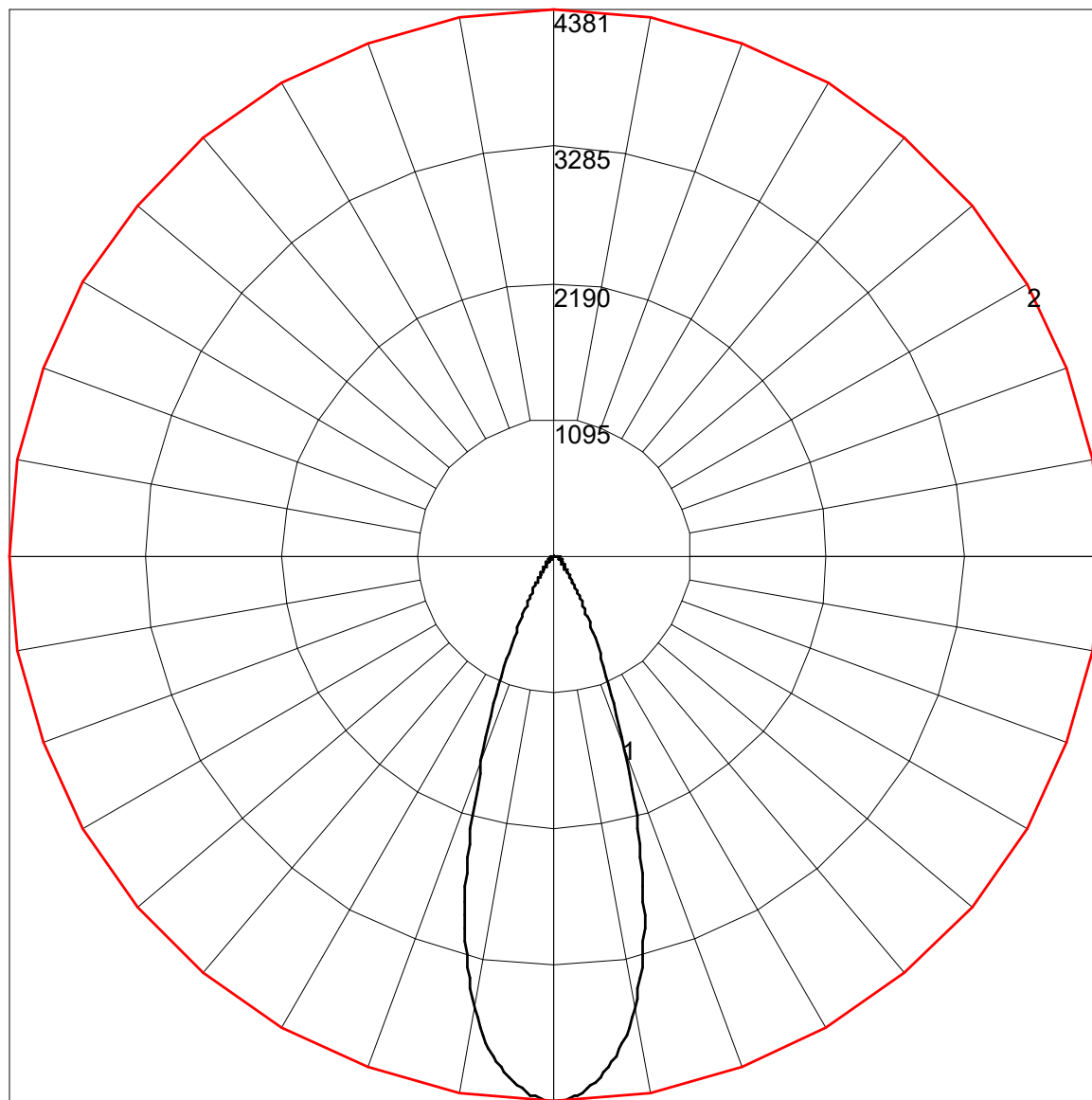
X=2H	Y=2H	11.7	12.7	12.0	13.0	13.3	11.7	12.7	12.0	13.0	13.3
	3H	13.1	14.0	13.5	14.3	14.7	13.1	14.0	13.5	14.3	14.7
	4H	13.6	14.4	14.0	14.8	15.2	13.6	14.4	14.0	14.8	15.2
	6H	13.9	14.7	14.4	15.1	15.5	13.9	14.7	14.4	15.1	15.5
	8H	14.0	14.7	14.5	15.1	15.5	14.0	14.7	14.5	15.1	15.5
	12H	14.1	14.7	14.5	15.1	15.6	14.1	14.7	14.5	15.1	15.6

UGR Viewed Endwise

4H	2H	12.1	12.9	12.5	13.3	13.7	12.1	12.9	12.5	13.3	13.7
	3H	13.7	14.4	14.1	14.8	15.2	13.7	14.4	14.1	14.8	15.2
	4H	14.3	14.9	14.7	15.3	15.8	14.3	14.9	14.7	15.3	15.8
	6H	14.8	15.3	15.2	15.7	16.2	14.8	15.3	15.2	15.7	16.2
	8H	14.9	15.4	15.4	15.8	16.3	14.9	15.4	15.4	15.8	16.3
	12H	15.0	15.4	15.4	15.9	16.3	15.0	15.4	15.4	15.9	16.3
8H	4H	14.5	15.0	15.0	15.4	15.9	14.5	15.0	15.0	15.4	15.9
	6H	15.0	15.4	15.6	15.9	16.4	15.0	15.4	15.6	15.9	16.4
	8H	15.2	15.6	15.8	16.1	16.6	15.2	15.6	15.8	16.1	16.6
	12H	15.4	15.7	15.9	16.2	16.7	15.4	15.7	15.9	16.2	16.7
12H	4H	14.5	14.9	15.0	15.4	15.8	14.5	14.9	15.0	15.4	15.8
	6H	15.1	15.4	15.6	15.9	16.4	15.1	15.4	15.6	15.9	16.4
	8H	15.3	15.6	15.8	16.1	16.7	15.3	15.6	15.8	16.1	16.7

Maximum UGR = 16.7

POLAR GRAPH



Maximum Candela = 4380.508 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.)