



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L15-835-XXX-DIM-UNV-OM-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13131414.06
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 02/19/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-L15-835-xxx-DIM-UNV-OM-CS-xx
 [LUMINAIRE] Aluminum cylinder housing and reflector, no lens enclosure
 [LAMP] One white LED
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Downlight
 [_SEARCH_MOUNTING] Surface, Suspended, Wall

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1518
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	17.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.66
Spacing Criterion (90-270)	0.66
Spacing Criterion (Diagonal)	0.66
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 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	10468	10468	10468
55	3147	3147	3147
65	1044	1044	1044
75	465	465	465
85	229	229	229

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CANDELA TABULATION

	<u>0</u>
0.0	3425.800
0.5	3425.800
1.0	3425.166
1.5	3424.532
2.0	3424.532
2.5	3419.461
3.0	3410.588
3.5	3401.714
4.0	3390.940
4.5	3380.165
5.0	3367.488
5.5	3349.741
6.0	3327.557
6.5	3294.599
7.0	3255.936
7.5	3216.005
8.0	3172.905
8.5	3124.735
9.0	3072.762
9.5	3018.253
10.0	2960.575
10.5	2900.362
11.0	2838.248
11.5	2775.500
12.0	2712.118
12.5	2647.468
13.0	2583.452
13.5	2520.070
14.0	2458.590
14.5	2398.377
15.0	2338.798
15.5	2279.852
16.0	2220.907
16.5	2161.962
17.0	2103.650
17.5	2045.972
18.0	1988.929
18.5	1932.519
19.0	1874.207
19.5	1815.262
20.0	1754.415
20.5	1692.934
21.0	1630.186
21.5	1566.170
22.0	1500.887
22.5	1432.434
23.0	1362.080
23.5	1289.825
24.0	1215.034
24.5	1138.975
25.0	1061.649
25.5	983.056
26.0	904.462
26.5	825.234

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CANDELA TABULATION - (Cont.)

27.0	747.274
27.5	671.216
28.0	598.897
28.5	529.367
29.0	465.414
29.5	406.532
30.0	353.418
30.5	304.678
31.0	260.817
31.5	221.584
32.0	188.308
32.5	160.040
33.0	136.715
33.5	117.384
34.0	101.601
34.5	88.481
35.0	78.340
35.5	70.734
36.0	64.903
36.5	60.276
37.0	56.093
37.5	52.290
38.0	48.931
38.5	46.079
39.0	43.480
39.5	41.135
40.0	38.980
40.5	37.015
41.0	35.177
41.5	33.402
42.0	31.754
42.5	30.233
43.0	28.775
43.5	27.381
44.0	26.050
44.5	24.782
45.0	23.388
45.5	21.994
46.0	20.726
46.5	19.522
47.0	18.444
47.5	17.303
48.0	16.289
48.5	15.275
49.0	14.324
49.5	13.437
50.0	12.486
50.5	11.599
51.0	10.712
51.5	9.824
52.0	9.000
52.5	8.366
53.0	7.796
53.5	7.226
54.0	6.655
54.5	6.211

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CANDELA TABULATION - (Cont.)

55.0	5.704
55.5	5.261
56.0	4.880
56.5	4.437
57.0	4.056
57.5	3.803
58.0	3.549
58.5	3.296
59.0	3.042
59.5	2.852
60.0	2.662
60.5	2.535
61.0	2.345
61.5	2.218
62.0	2.092
62.5	1.965
63.0	1.838
63.5	1.711
64.0	1.585
64.5	1.521
65.0	1.394
65.5	1.331
66.0	1.268
66.5	1.204
67.0	1.077
67.5	1.014
68.0	0.951
68.5	0.887
69.0	0.887
69.5	0.824
70.0	0.761
70.5	0.697
71.0	0.634
71.5	0.634
72.0	0.570
72.5	0.570
73.0	0.507
73.5	0.444
74.0	0.444
74.5	0.380
75.0	0.380
75.5	0.380
76.0	0.317
76.5	0.317
77.0	0.317
77.5	0.254
78.0	0.254
78.5	0.254
79.0	0.190
79.5	0.190
80.0	0.190
80.5	0.190
81.0	0.127
81.5	0.127
82.0	0.127
82.5	0.127

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CANDELA TABULATION - (Cont.)

83.0	0.127
83.5	0.063
84.0	0.063
84.5	0.063
85.0	0.063
85.5	0.063
86.0	0.063
86.5	0.063
87.0	0.063
87.5	0.063
88.0	0.063
88.5	0.063
89.0	0.000
89.5	0.000
90.0	0.000
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
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
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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

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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
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

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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	955.60	N.A.	62.90
0-30	1422.27	N.A.	93.70
0-40	1492.24	N.A.	98.30
0-60	1516.13	N.A.	99.90
0-80	1518.06	N.A.	100.00
0-90	1518.14	N.A.	100.00
10-90	1209.54	N.A.	79.70
20-40	536.64	N.A.	35.30
20-50	554.98	N.A.	36.60
40-70	25.38	N.A.	1.70
60-80	1.93	N.A.	0.10
70-80	0.43	N.A.	0.00
80-90	0.09	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	1518.14	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	308.60
10-20	647.00
20-30	466.67
30-40	69.97
40-50	18.33
50-60	5.56
60-70	1.49
70-80	0.43
80-90	0.09
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

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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	114	112	110	108	112	110	108	106	106	105	103	102	101	100	99	98	97	96
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	94	87	82	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76
7	91	84	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73
8	88	80	75	72	87	80	75	72	79	75	72	78	74	71	77	74	71	70
9	85	77	72	69	84	77	72	69	76	72	69	75	71	68	74	71	68	67
10	82	74	69	66	81	74	69	66	73	69	66	72	68	66	72	68	66	65

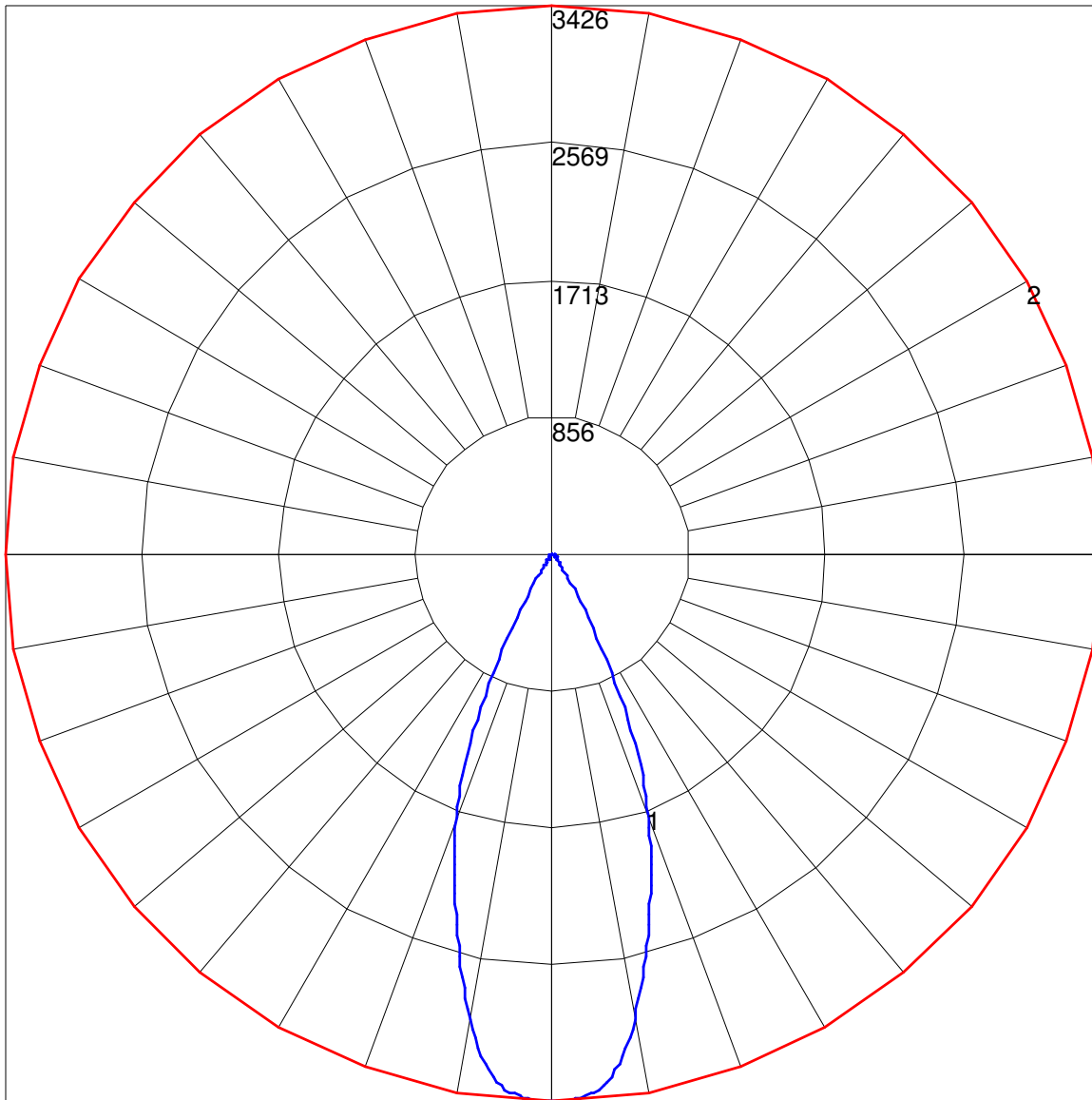
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UGR TABLE - CORRECTED

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					UGR Viewed Endwise				
X=2H	Y=2H	1.5	1.5	1.5	1.6	1.9	1.5	1.5	1.5	1.6	1.9
	3H	1.5	1.5	1.5	1.7	2.0	1.5	1.5	1.5	1.7	2.0
	4H	1.5	1.5	1.5	1.6	2.0	1.5	1.5	1.5	1.6	2.0
	6H	1.5	1.5	1.5	1.5	1.9	1.5	1.5	1.5	1.5	1.9
	8H	1.5	1.5	1.5	1.5	1.8	1.5	1.5	1.5	1.5	1.8
	12H	1.5	1.5	1.5	1.5	1.7	1.5	1.5	1.5	1.5	1.7
4H	2H	1.5	1.5	1.5	1.5	1.8	1.5	1.5	1.5	1.5	1.8
	3H	1.5	1.5	1.5	1.5	1.9	1.5	1.5	1.5	1.5	1.9
	4H	1.5	1.5	1.5	1.5	1.9	1.5	1.5	1.5	1.5	1.9
	6H	1.5	1.5	1.5	1.5	1.9	1.5	1.5	1.5	1.5	1.9
	8H	1.5	1.5	1.5	1.5	1.8	1.5	1.5	1.5	1.5	1.8
	12H	1.5	1.5	1.5	1.5	1.7	1.5	1.5	1.5	1.5	1.7
8H	4H	1.5	1.5	1.5	1.5	1.7	1.5	1.5	1.5	1.5	1.7
	6H	1.5	1.5	1.5	1.5	1.7	1.5	1.5	1.5	1.5	1.7
	8H	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.6
	12H	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.6
12H	4H	1.5	1.5	1.5	1.5	1.7	1.5	1.5	1.5	1.5	1.7
	6H	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.6
	8H	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.6

Maximum UGR = 2.0

POLAR GRAPH



Maximum Candela = 3425.8 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)