



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L20-835-XXX-DIM-UNV-OW-WH-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM 13131414.01
[TESTLAB] UL Verification Services Inc.
[ISSUEDATE] 10-16-2024
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
[LUMCAT] 4CR-xx-L20-835-xxx-DIM-UNV-OW-WH-xx
[LUMINAIRE] Aluminum housing and reflector, no enclosure
[LAMP] One white LED
[SEARCH_SOURCETYPE] LED
[SEARCH_APPLICATION] Indoor, Downlight
[SEARCH_MOUNTING] Pendant, Surface, Suspended, Wall

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1836
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	77
Total Luminaire Watts	23.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.04
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	49824	49824	49824
55	14181	14181	14181
65	6434	6434	6434
75	1992	1992	1992
85	537	537	537

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CANDELA TABULATION

	<u>0</u>
0.0	1489.446
0.5	1489.446
1.0	1489.446
1.5	1490.187
2.0	1490.927
2.5	1491.668
3.0	1492.409
3.5	1494.631
4.0	1497.593
4.5	1501.297
5.0	1505.740
5.5	1510.925
6.0	1515.369
6.5	1521.294
7.0	1527.219
7.5	1533.145
8.0	1539.810
8.5	1544.995
9.0	1549.439
9.5	1552.401
10.0	1555.364
10.5	1557.586
11.0	1559.067
11.5	1559.808
12.0	1559.067
12.5	1558.327
13.0	1556.105
13.5	1553.883
14.0	1550.920
14.5	1548.698
15.0	1545.736
15.5	1542.773
16.0	1539.070
16.5	1536.848
17.0	1533.885
17.5	1531.663
18.0	1530.182
18.5	1527.960
19.0	1524.257
19.5	1517.591
20.0	1510.925
20.5	1502.037
21.0	1491.668
21.5	1480.558
22.0	1469.449
22.5	1456.117
23.0	1442.045
23.5	1426.491
24.0	1410.937
24.5	1394.643
25.0	1376.867
25.5	1357.611
26.0	1336.872
26.5	1313.912

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CANDELA TABULATION - (Cont.)

27.0	1289.471
27.5	1261.326
28.0	1234.663
28.5	1206.518
29.0	1179.114
29.5	1151.710
30.0	1122.825
30.5	1093.199
31.0	1062.832
31.5	1031.725
32.0	1002.099
32.5	970.992
33.0	939.144
33.5	907.296
34.0	873.966
34.5	840.637
35.0	806.567
35.5	771.016
36.0	734.206
36.5	695.618
37.0	654.364
37.5	610.591
38.0	565.338
38.5	519.195
39.0	473.275
39.5	428.762
40.0	386.397
40.5	346.550
41.0	309.369
41.5	274.633
42.0	242.192
42.5	212.418
43.0	185.533
43.5	161.832
44.0	141.834
44.5	125.170
45.0	111.320
45.5	99.840
46.0	90.285
46.5	82.138
47.0	75.250
47.5	69.325
48.0	64.140
48.5	59.548
49.0	55.475
49.5	51.845
50.0	48.438
50.5	45.402
51.0	42.587
51.5	39.995
52.0	37.625
52.5	35.329
53.0	33.181
53.5	31.107
54.0	29.182
54.5	27.330

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CANDELA TABULATION - (Cont.)

55.0	25.701
55.5	24.219
56.0	22.886
56.5	21.627
57.0	20.516
57.5	19.479
58.0	18.516
58.5	17.627
59.0	16.813
59.5	15.924
60.0	15.183
60.5	14.369
61.0	13.702
61.5	12.961
62.0	12.295
62.5	11.628
63.0	11.036
63.5	10.369
64.0	9.777
64.5	9.184
65.0	8.592
65.5	8.073
66.0	7.555
66.5	6.962
67.0	6.518
67.5	5.999
68.0	5.555
68.5	5.185
69.0	4.740
69.5	4.370
70.0	4.000
70.5	3.703
71.0	3.407
71.5	3.111
72.0	2.814
72.5	2.592
73.0	2.370
73.5	2.148
74.0	2.000
74.5	1.778
75.0	1.629
75.5	1.481
76.0	1.333
76.5	1.259
77.0	1.111
77.5	0.963
78.0	0.889
78.5	0.815
79.0	0.741
79.5	0.667
80.0	0.593
80.5	0.518
81.0	0.444
81.5	0.444
82.0	0.370
82.5	0.296

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CANDELA TABULATION - (Cont.)

83.0	0.296
83.5	0.222
84.0	0.222
84.5	0.222
85.0	0.148
85.5	0.148
86.0	0.148
86.5	0.074
87.0	0.074
87.5	0.074
88.0	0.074
88.5	0.074
89.0	0.074
89.5	0.074
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
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

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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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Zone	Lumens	%Lamp	%Fixt
0-20	582.39	N.A.	31.70
0-30	1203.95	N.A.	65.60
0-40	1688.68	N.A.	92.00
0-60	1825.07	N.A.	99.40
0-80	1835.8	N.A.	100.00
0-90	1836.03	N.A.	100.00
10-90	1690.41	N.A.	92.10
20-40	1106.29	N.A.	60.30
20-50	1218.00	N.A.	66.30
40-70	145.17	N.A.	7.90
60-80	10.73	N.A.	0.60
70-80	1.95	N.A.	0.10
80-90	0.23	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	1836.03	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	145.62
10-20	436.77
20-30	621.56
30-40	484.73
40-50	111.70
50-60	24.68
60-70	8.78
70-80	1.95
80-90	0.23
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	113	110	108	106	111	108	106	104	104	102	101	100	99	98	97	96	95	93
2	107	102	98	95	105	101	97	94	97	94	92	94	92	90	92	90	88	86
3	102	95	90	86	100	94	89	85	91	87	84	88	85	82	86	83	81	79
4	96	88	83	78	94	87	82	78	85	80	77	83	79	76	81	78	75	73
5	91	82	76	72	89	81	76	71	79	74	71	78	73	70	76	72	69	68
6	86	77	71	66	85	76	70	66	74	69	65	73	68	65	72	68	64	63
7	81	72	65	61	80	71	65	61	70	64	61	69	64	60	67	63	60	58
8	77	67	61	57	76	67	61	57	66	60	56	64	60	56	63	59	56	54
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51
10	70	59	53	49	68	59	53	49	58	53	49	57	52	49	57	52	49	47

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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

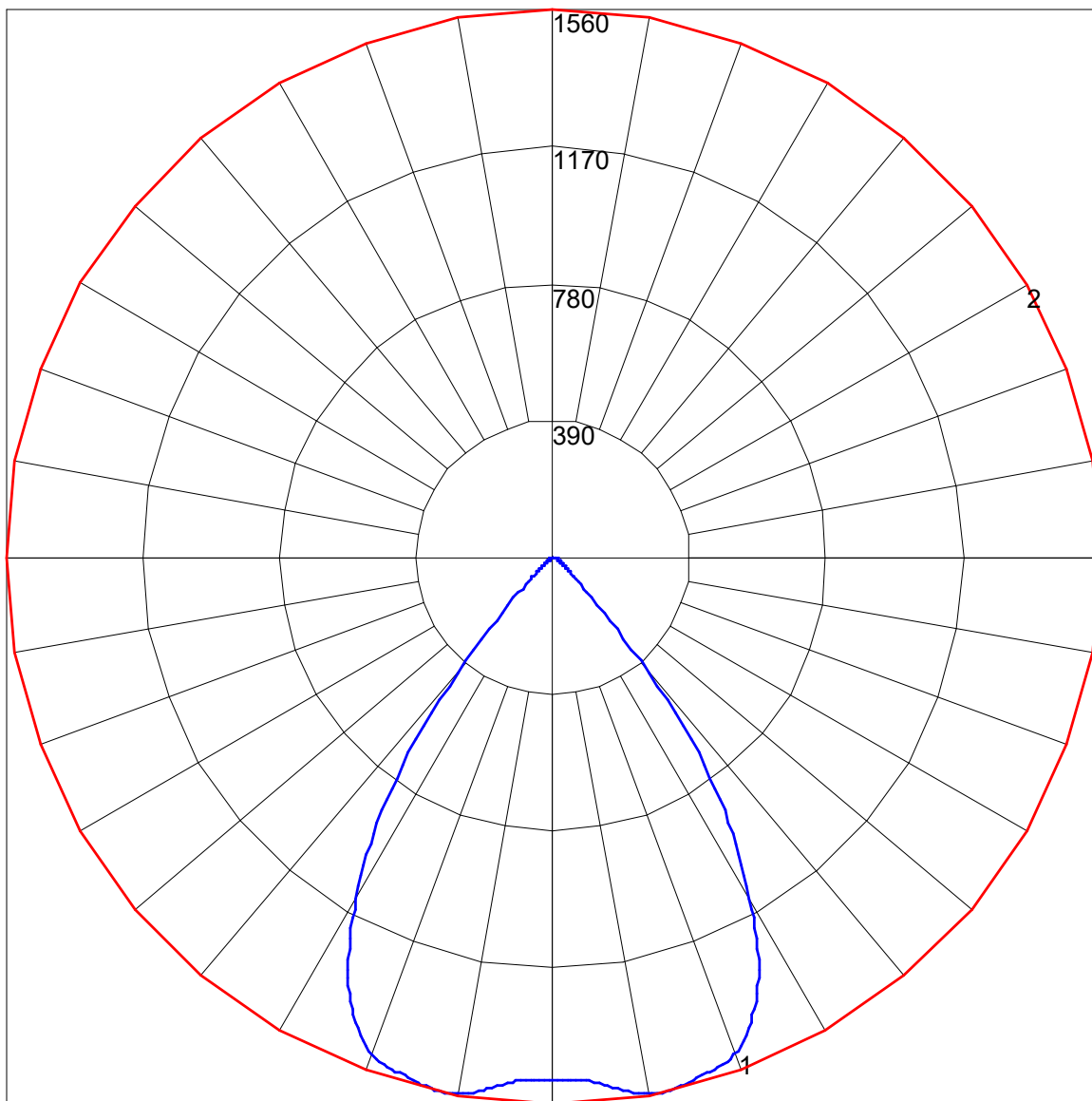
X=2H	Y=2H	10.9	11.9	11.3	12.3	12.6	10.9	11.9	11.3	12.3	12.6
	3H	11.2	12.1	11.6	12.4	12.8	11.2	12.1	11.6	12.4	12.8
	4H	11.2	12.0	11.6	12.3	12.7	11.2	12.0	11.6	12.3	12.7
	6H	11.1	11.8	11.5	12.2	12.6	11.1	11.8	11.5	12.2	12.6
	8H	11.0	11.7	11.5	12.1	12.5	11.0	11.7	11.5	12.1	12.5
	12H	11.0	11.6	11.4	12.0	12.5	11.0	11.6	11.4	12.0	12.5

UGR Viewed Endwise

4H	2H	11.0	11.8	11.4	12.2	12.5	11.0	11.8	11.4	12.2	12.5
	3H	11.3	12.0	11.7	12.4	12.8	11.3	12.0	11.7	12.4	12.8
	4H	11.3	11.9	11.7	12.3	12.7	11.3	11.9	11.7	12.3	12.7
	6H	11.2	11.7	11.6	12.1	12.6	11.2	11.7	11.6	12.1	12.6
	8H	11.1	11.6	11.6	12.0	12.5	11.1	11.6	11.6	12.0	12.5
	12H	11.1	11.5	11.6	12.0	12.4	11.1	11.5	11.6	12.0	12.4
8H	4H	11.1	11.6	11.6	12.0	12.5	11.1	11.6	11.6	12.0	12.5
	6H	11.0	11.4	11.6	11.9	12.4	11.0	11.4	11.6	11.9	12.4
	8H	11.0	11.3	11.5	11.8	12.3	11.0	11.3	11.5	11.8	12.3
	12H	10.9	11.2	11.4	11.7	12.3	10.9	11.2	11.4	11.7	12.3
12H	4H	11.1	11.5	11.6	12.0	12.4	11.1	11.5	11.6	12.0	12.4
	6H	11.0	11.3	11.5	11.8	12.3	11.0	11.3	11.5	11.8	12.3
	8H	10.9	11.2	11.4	11.7	12.3	10.9	11.2	11.4	11.7	12.3

Maximum UGR = 12.8

POLAR GRAPH



Maximum Candela = 1559.808 Located At Horizontal Angle = 0, Vertical Angle = 11.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (11.5) (Through Max. Cd.)