



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L20-830-XXX-DIM-UNV-RN-BL-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]GEN FROM 13257153.09
[TESTLAB] UL Verification Services Inc.
[ISSUE DATE] 12-04-2024
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMCAT] 4CR-xx-L20-830-xxx-DIM-UNV-RN-BL-xx
[LUMINAIRE] Aluminum housing, optics, and trim 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	1593
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	67
Total Luminaire Watts	23.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.38
Spacing Criterion (90-270)	0.38
Spacing Criterion (Diagonal)	0.38
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	74133	74133	74133
55	50941	50941	50941
65	35863	35863	35863
75	17904	17904	17904
85	11075	11075	11075

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CANDELA TABULATION

	<u>0</u>
0.0	5768.227
0.5	5759.076
1.0	5732.639
1.5	5689.934
2.0	5629.944
2.5	5553.685
3.0	5463.191
3.5	5358.462
4.0	5238.481
4.5	5105.282
5.0	4958.865
5.5	4801.263
6.0	4633.494
6.5	4457.590
7.0	4274.568
7.5	4087.480
8.0	3895.307
8.5	3702.118
9.0	3506.895
9.5	3312.689
10.0	3120.516
10.5	2932.411
11.0	2749.389
11.5	2571.452
12.0	2399.615
12.5	2235.912
13.0	2081.361
13.5	1936.977
14.0	1801.745
14.5	1674.647
15.0	1557.716
15.5	1449.937
16.0	1352.325
16.5	1262.848
17.0	1182.522
17.5	1111.347
18.0	1046.273
18.5	988.113
19.0	935.748
19.5	888.976
20.0	847.186
20.5	810.378
21.0	777.028
21.5	746.524
22.0	718.868
22.5	693.041
23.0	669.249
23.5	646.778
24.0	625.730
24.5	605.394
25.0	585.669
25.5	566.451
26.0	547.539
26.5	528.932

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L20-830-XXX-DIM-UNV-RN-BL-XX_.IES****CANDELA TABULATION - (Cont.)**

27.0	510.732
27.5	492.633
28.0	475.042
28.5	457.554
29.0	440.167
29.5	422.576
30.0	405.088
30.5	388.006
31.0	371.839
31.5	356.892
32.0	343.165
32.5	330.455
33.0	318.966
33.5	308.493
34.0	299.138
34.5	290.394
35.0	282.361
35.5	274.939
36.0	268.025
36.5	261.517
37.0	255.315
37.5	249.316
38.0	243.520
38.5	237.623
39.0	231.827
39.5	226.032
40.0	220.338
40.5	214.542
41.0	208.848
41.5	203.052
42.0	197.460
42.5	191.969
43.0	186.479
43.5	181.090
44.0	175.802
44.5	170.617
45.0	165.634
45.5	160.754
46.0	155.975
46.5	151.298
47.0	146.722
47.5	142.248
48.0	137.978
48.5	133.809
49.0	129.844
49.5	125.980
50.0	122.319
50.5	118.761
51.0	115.405
51.5	112.050
52.0	108.999
52.5	105.949
53.0	103.102
53.5	100.255
54.0	97.510
54.5	94.866

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CANDELA TABULATION - (Cont.)

55.0	92.324
55.5	89.782
56.0	87.240
56.5	84.800
57.0	82.360
57.5	80.021
58.0	77.682
58.5	75.446
59.0	73.209
59.5	70.972
60.0	68.735
60.5	66.498
61.0	64.363
61.5	62.227
62.0	60.092
62.5	58.058
63.0	55.923
63.5	53.890
64.0	51.856
64.5	49.823
65.0	47.891
65.5	45.959
66.0	44.027
66.5	42.095
67.0	40.366
67.5	38.536
68.0	36.706
68.5	34.977
69.0	33.249
69.5	31.520
70.0	29.894
70.5	28.267
71.0	26.640
71.5	25.013
72.0	23.488
72.5	21.963
73.0	20.437
73.5	18.912
74.0	17.489
74.5	16.065
75.0	14.642
75.5	13.320
76.0	11.998
76.5	10.880
77.0	9.965
77.5	9.354
78.0	8.948
78.5	8.439
79.0	8.033
79.5	7.524
80.0	7.118
80.5	6.711
81.0	6.202
81.5	5.796
82.0	5.389
82.5	4.982

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CANDELA TABULATION - (Cont.)

83.0	4.576
83.5	4.271
84.0	3.864
84.5	3.457
85.0	3.050
85.5	2.745
86.0	2.339
86.5	2.034
87.0	1.627
87.5	1.322
88.0	1.017
88.5	0.712
89.0	0.407
89.5	0.203
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

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
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124.5	0.000
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126.5	0.000
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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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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	861.13	N.A.	54.10
0-30	1131.56	N.A.	71.00
0-40	1313.06	N.A.	82.40
0-60	1524.96	N.A.	95.70
0-80	1589.53	N.A.	99.80
0-90	1593.02	N.A.	100.00
10-90	1181.01	N.A.	74.10
20-40	451.93	N.A.	28.40
20-50	580.59	N.A.	36.40
40-70	259.65	N.A.	16.30
60-80	64.57	N.A.	4.10
70-80	16.82	N.A.	1.10
80-90	3.50	N.A.	0.20
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	1593.02	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	412.01
10-20	449.12
20-30	270.43
30-40	181.50
40-50	128.66
50-60	83.24
60-70	47.75
70-80	16.82
80-90	3.50
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	111	108	106	111	108	106	104	104	102	101	101	99	98	97	96	95	93
2	108	103	99	95	106	101	97	94	98	95	92	95	92	90	92	90	88	87
3	103	96	91	87	101	95	90	86	92	88	85	90	86	84	87	85	82	81
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76
5	93	85	80	75	92	84	79	75	83	78	74	81	77	74	79	76	73	72
6	89	81	75	71	88	80	75	71	79	74	70	77	73	70	76	72	69	68
7	86	77	71	67	84	76	71	67	75	70	67	74	70	66	73	69	66	65
8	82	73	68	64	81	73	68	64	72	67	64	71	67	63	70	66	63	62
9	79	70	65	61	78	70	65	61	69	64	61	68	64	61	67	63	61	59
10	76	68	62	59	75	67	62	59	66	62	59	66	61	58	65	61	58	57

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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

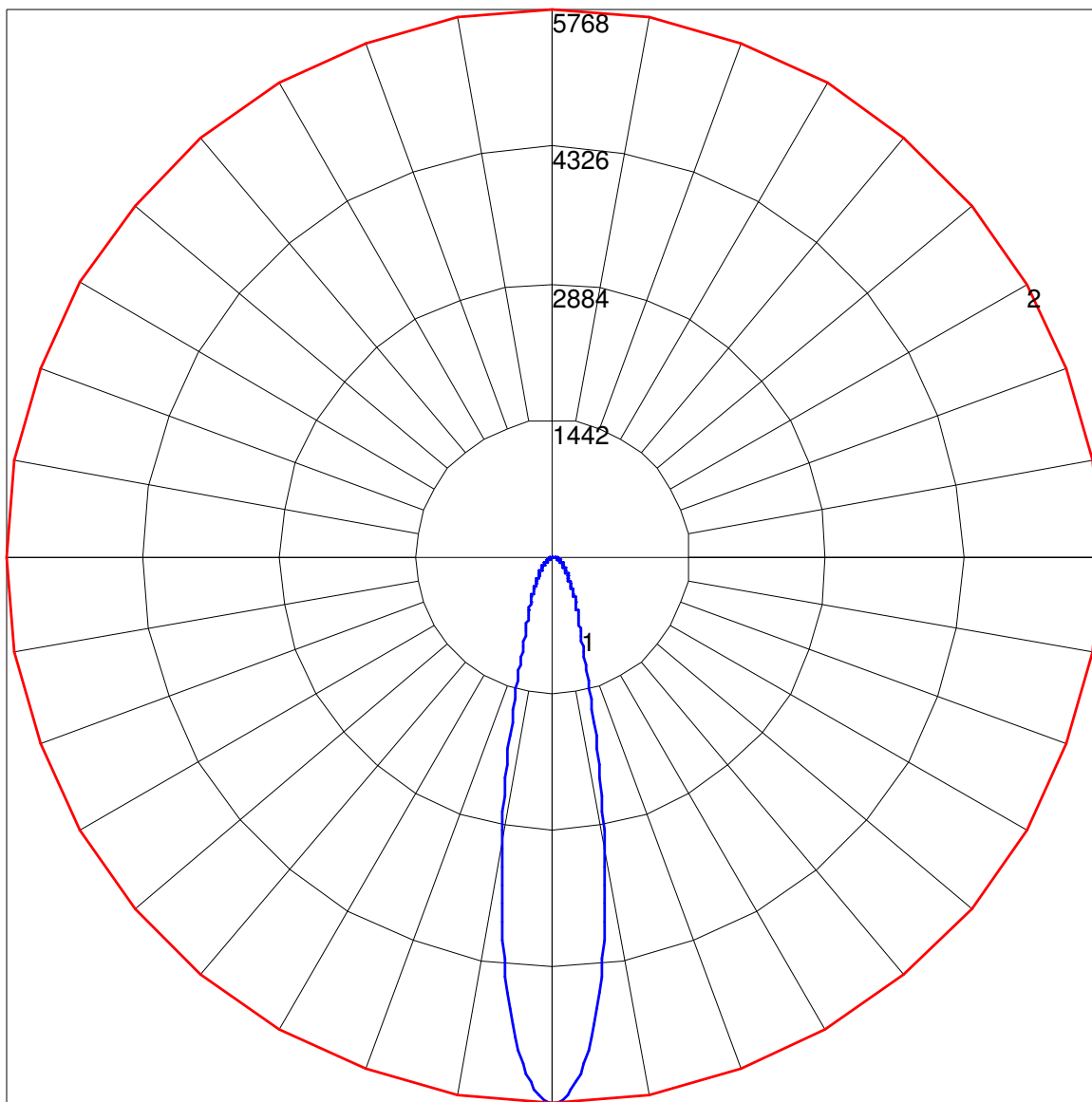
X=2H	Y=2H	21.2	22.3	21.6	22.6	23.0	21.2	22.3	21.6	22.6	23.0
	3H	22.1	23.1	22.5	23.5	23.8	22.1	23.1	22.5	23.5	23.8
	4H	22.3	23.2	22.7	23.6	24.0	22.3	23.2	22.7	23.6	24.0
	6H	22.3	23.2	22.7	23.5	23.9	22.3	23.2	22.7	23.5	23.9
	8H	22.3	23.1	22.7	23.5	23.9	22.3	23.1	22.7	23.5	23.9
	12H	22.3	23.0	22.7	23.4	23.9	22.3	23.0	22.7	23.4	23.9

UGR Viewed Endwise

4H	2H	21.5	22.4	21.9	22.8	23.2	21.5	22.4	21.9	22.8	23.2
	3H	22.6	23.3	23.0	23.7	24.1	22.6	23.3	23.0	23.7	24.1
	4H	22.8	23.4	23.2	23.9	24.3	22.8	23.4	23.2	23.9	24.3
	6H	22.8	23.4	23.3	23.9	24.3	22.8	23.4	23.3	23.9	24.3
	8H	22.8	23.4	23.3	23.8	24.3	22.8	23.4	23.3	23.8	24.3
	12H	22.8	23.3	23.3	23.8	24.2	22.8	23.3	23.3	23.8	24.2
8H	4H	22.7	23.3	23.2	23.7	24.2	22.7	23.3	23.2	23.7	24.2
	6H	22.8	23.3	23.3	23.8	24.3	22.8	23.3	23.3	23.8	24.3
	8H	22.9	23.3	23.4	23.8	24.3	22.9	23.3	23.4	23.8	24.3
	12H	22.9	23.2	23.4	23.7	24.3	22.9	23.2	23.4	23.7	24.3
12H	4H	22.7	23.2	23.2	23.7	24.1	22.7	23.2	23.2	23.7	24.1
	6H	22.8	23.2	23.4	23.7	24.2	22.8	23.2	23.4	23.7	24.2
	8H	22.9	23.2	23.4	23.7	24.3	22.9	23.2	23.4	23.7	24.3

Maximum UGR = 24.3

POLAR GRAPH



Maximum Candela = 5768.227 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.)