



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L9-930-XXX-DIM-UNV-LW-OF-WH-AD-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM 13257153.01
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 25 JAN 2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4CR-L9-930-xxx-DIM-UNV-LW-OF-WH-AD-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	653
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	61
Total Luminaire Watts	10.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.86
Spacing Criterion (90-270)	0.86
Spacing Criterion (Diagonal)	0.78
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	26950	26950	26950
55	23537	23537	23537
65	20107	20107	20107
75	16221	16221	16221
85	9085	9085	9085

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CANDELA TABULATION

	<u>0</u>
0.0	770.936
0.5	770.539
1.0	770.539
1.5	770.142
2.0	769.745
2.5	768.553
3.0	767.362
3.5	766.170
4.0	764.581
4.5	762.595
5.0	760.609
5.5	758.624
6.0	756.638
6.5	754.254
7.0	751.871
7.5	749.488
8.0	746.708
8.5	743.928
9.0	740.750
9.5	737.573
10.0	733.998
10.5	730.026
11.0	726.054
11.5	721.685
12.0	717.316
12.5	712.153
13.0	706.989
13.5	701.429
14.0	695.471
14.5	689.116
15.0	682.364
15.5	674.817
16.0	667.271
16.5	658.930
17.0	649.795
17.5	640.660
18.0	630.333
18.5	619.609
19.0	607.693
19.5	594.983
20.0	581.876
20.5	567.577
21.0	552.882
21.5	536.994
22.0	520.312
22.5	503.234
23.0	485.360
23.5	467.090
24.0	448.422
24.5	429.357
25.0	409.895
25.5	390.632
26.0	371.130
26.5	351.827

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CANDELA TABULATION - (Cont.)

27.0	332.801
27.5	314.173
28.0	295.943
28.5	278.149
29.0	260.911
29.5	244.110
30.0	228.342
30.5	213.447
31.0	199.387
31.5	186.280
32.0	174.007
32.5	162.608
33.0	152.162
33.5	142.589
34.0	133.891
34.5	125.947
35.0	118.719
35.5	112.165
36.0	106.247
36.5	100.964
37.0	96.198
37.5	91.948
38.0	88.135
38.5	84.680
39.0	81.582
39.5	78.802
40.0	76.260
40.5	73.996
41.0	71.930
41.5	70.024
42.0	68.276
42.5	66.648
43.0	65.178
43.5	63.828
44.0	62.557
44.5	61.365
45.0	60.213
45.5	59.141
46.0	58.108
46.5	57.115
47.0	56.162
47.5	55.209
48.0	54.295
48.5	53.382
49.0	52.468
49.5	51.594
50.0	50.760
50.5	49.926
51.0	49.052
51.5	48.258
52.0	47.424
52.5	46.630
53.0	45.835
53.5	45.041
54.0	44.246
54.5	43.452

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CANDELA TABULATION - (Cont.)

55.0	42.658
55.5	41.863
56.0	41.109
56.5	40.275
57.0	39.520
57.5	38.726
58.0	37.931
58.5	37.137
59.0	36.342
59.5	35.548
60.0	34.754
60.5	33.959
61.0	33.165
61.5	32.331
62.0	31.576
62.5	30.782
63.0	29.948
63.5	29.153
64.0	28.359
64.5	27.604
65.0	26.850
65.5	26.095
66.0	25.340
66.5	24.625
67.0	23.871
67.5	23.196
68.0	22.481
68.5	21.805
69.0	21.130
69.5	20.415
70.0	19.740
70.5	19.065
71.0	18.429
71.5	17.754
72.0	17.079
72.5	16.443
73.0	15.768
73.5	15.133
74.0	14.537
74.5	13.901
75.0	13.266
75.5	12.670
76.0	12.074
76.5	11.479
77.0	10.923
77.5	10.327
78.0	9.771
78.5	9.215
79.0	8.659
79.5	8.103
80.0	7.586
80.5	7.030
81.0	6.514
81.5	5.997
82.0	5.481
82.5	4.965

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CANDELA TABULATION - (Cont.)

83.0	4.488
83.5	3.972
84.0	3.495
84.5	2.979
85.0	2.502
85.5	1.986
86.0	1.470
86.5	1.112
87.0	0.794
87.5	0.477
88.0	0.318
88.5	0.238
89.0	0.159
89.5	0.119
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
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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 : 4CR-L9-930-XXX-DIM-UNV-LW-OF-WH-AD-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
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150.0	0.000
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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

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	260.64	N.A.	39.90
0-30	444.35	N.A.	68.00
0-40	524.16	N.A.	80.20
0-60	609.47	N.A.	93.30
0-80	650.31	N.A.	99.50
0-90	653.46	N.A.	100.00
10-90	581.68	N.A.	89.00
20-40	263.52	N.A.	40.30
20-50	310.69	N.A.	47.50
40-70	112.01	N.A.	17.10
60-80	40.84	N.A.	6.20
70-80	14.14	N.A.	2.20
80-90	3.15	N.A.	0.50
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	653.46	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	71.78
10-20	188.86
20-30	183.71
30-40	79.81
40-50	47.16
50-60	38.15
60-70	26.70
70-80	14.14
80-90	3.15
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	109	106	104	110	107	104	102	103	101	99	99	98	96	96	94	93	91
2	106	100	96	92	104	99	94	91	95	92	89	92	89	87	89	87	85	83
3	100	93	87	83	98	91	86	82	89	84	81	86	82	79	84	81	78	76
4	95	86	80	75	93	85	79	75	83	78	74	81	76	73	79	75	72	71
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	65
6	85	75	69	64	83	74	68	64	73	67	63	71	67	63	70	66	63	61
7	81	71	64	60	79	70	64	60	69	63	59	67	63	59	66	62	59	57
8	77	67	60	56	75	66	60	56	65	60	56	64	59	55	63	58	55	54
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51
10	70	60	54	50	69	59	54	50	59	53	50	58	53	49	57	52	49	48

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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	19.3	20.4	19.6	20.8	21.1	19.3	20.4	19.6	20.8	21.1
	3H	20.8	21.8	21.2	22.1	22.5	20.8	21.8	21.2	22.1	22.5
	4H	21.3	22.3	21.7	22.6	23.0	21.3	22.3	21.7	22.6	23.0
	6H	21.6	22.5	22.0	22.9	23.3	21.6	22.5	22.0	22.9	23.3
	8H	21.7	22.6	22.1	23.0	23.4	21.7	22.6	22.1	23.0	23.4
	12H	21.7	22.5	22.2	22.9	23.4	21.7	22.5	22.2	22.9	23.4

UGR Viewed Endwise

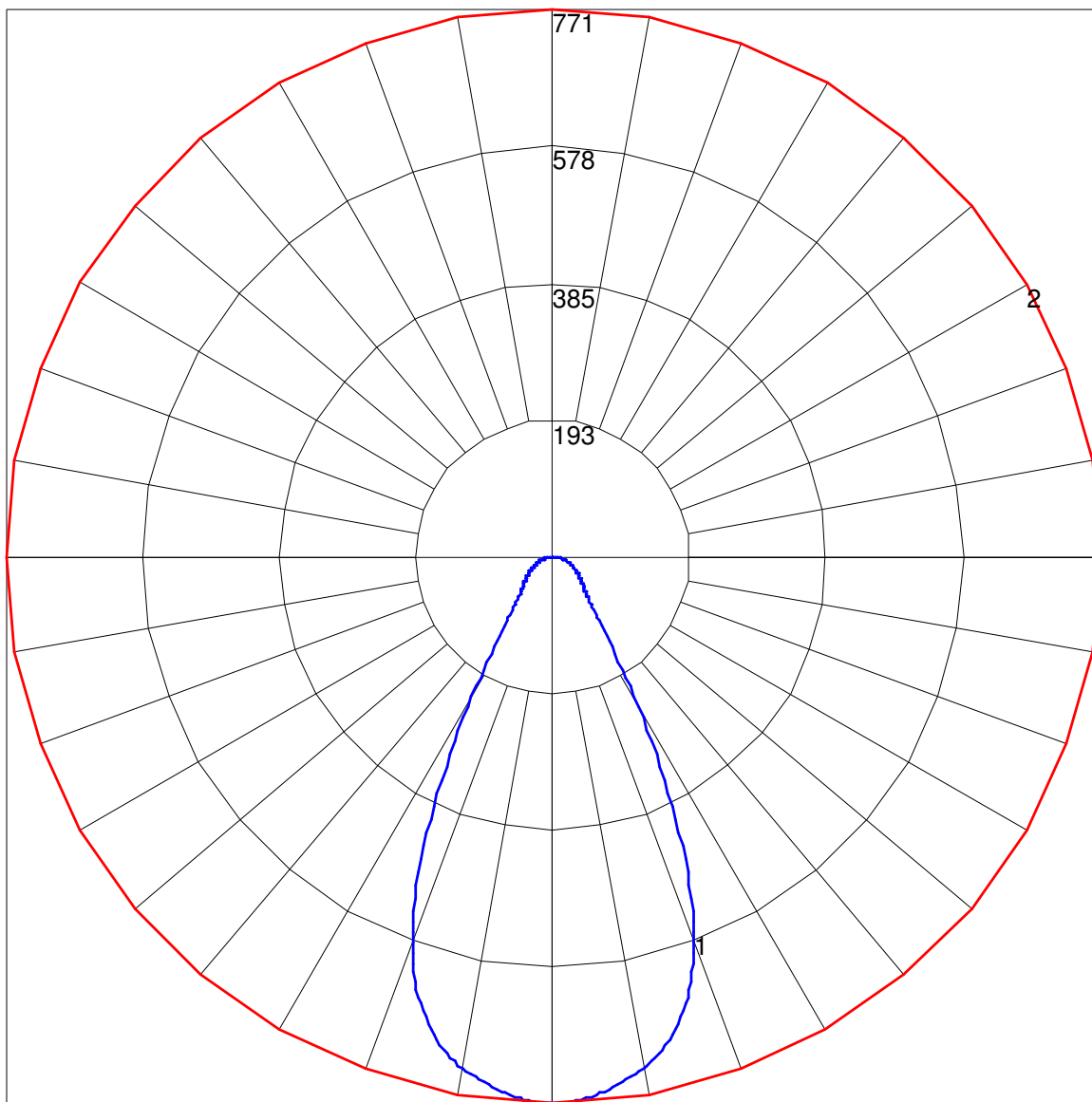
4H	2H	19.8	20.7	20.2	21.1	21.5	19.8	20.7	20.2	21.1	21.5
	3H	21.4	22.2	21.8	22.6	23.0	21.4	22.2	21.8	22.6	23.0
	4H	22.1	22.8	22.5	23.2	23.6	22.1	22.8	22.5	23.2	23.6
	6H	22.5	23.1	23.0	23.6	24.1	22.5	23.1	23.0	23.6	24.1
	8H	22.6	23.2	23.1	23.7	24.1	22.6	23.2	23.1	23.7	24.1
	12H	22.7	23.2	23.2	23.7	24.2	22.7	23.2	23.2	23.7	24.2

8H	4H	22.3	22.8	22.7	23.3	23.8	22.3	22.8	22.7	23.3	23.8
	6H	22.8	23.3	23.3	23.8	24.3	22.8	23.3	23.3	23.8	24.3
	8H	23.0	23.4	23.5	23.9	24.4	23.0	23.4	23.5	23.9	24.4
	12H	23.1	23.5	23.6	24.0	24.5	23.1	23.5	23.6	24.0	24.5

12H	4H	22.2	22.8	22.7	23.2	23.7	22.2	22.8	22.7	23.2	23.7
	6H	22.8	23.3	23.4	23.7	24.3	22.8	23.3	23.4	23.7	24.3
	8H	23.1	23.4	23.6	23.9	24.5	23.1	23.4	23.6	23.9	24.5

Maximum UGR = 24.5

POLAR GRAPH



Maximum Candela = 770.936 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.)