



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L15-935-XXX-DIM-UNV-OW-OF-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 13131414.01
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 01/25/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-L15-935-xxx-DIM-UNV-OW-OF-CS-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	1288
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	73
Total Luminaire Watts	17.7
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	34951	34951	34951
55	9948	9948	9948
65	4513	4513	4513
75	1398	1398	1398
85	378	378	378

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CANDELA TABULATION

	<u>0</u>
0.0	1044.844
0.5	1044.844
1.0	1044.844
1.5	1045.363
2.0	1045.883
2.5	1046.402
3.0	1046.922
3.5	1048.481
4.0	1050.559
4.5	1053.157
5.0	1056.274
5.5	1059.911
6.0	1063.028
6.5	1067.185
7.0	1071.342
7.5	1075.498
8.0	1080.174
8.5	1083.811
9.0	1086.928
9.5	1089.007
10.0	1091.085
10.5	1092.644
11.0	1093.683
11.5	1094.202
12.0	1093.683
12.5	1093.163
13.0	1091.605
13.5	1090.046
14.0	1087.968
14.5	1086.409
15.0	1084.331
15.5	1082.252
16.0	1079.655
16.5	1078.096
17.0	1076.018
17.5	1074.459
18.0	1073.420
18.5	1071.861
19.0	1069.263
19.5	1064.587
20.0	1059.911
20.5	1053.676
21.0	1046.402
21.5	1038.609
22.0	1030.816
22.5	1021.463
23.0	1011.592
23.5	1000.681
24.0	989.770
24.5	978.340
25.0	965.870
25.5	952.361
26.0	937.814
26.5	921.707

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CANDELA TABULATION - (Cont.)

27.0	904.561
27.5	884.818
28.0	866.114
28.5	846.370
29.0	827.146
29.5	807.922
30.0	787.659
30.5	766.877
31.0	745.575
31.5	723.753
32.0	702.970
32.5	681.149
33.0	658.807
33.5	636.466
34.0	613.086
34.5	589.705
35.0	565.805
35.5	540.866
36.0	515.044
36.5	487.975
37.0	459.035
37.5	428.329
38.0	396.583
38.5	364.215
39.0	332.002
39.5	300.776
40.0	271.057
40.5	243.104
41.0	217.022
41.5	192.654
42.0	169.898
42.5	149.011
43.0	130.151
43.5	113.525
44.0	99.497
44.5	87.806
45.0	78.091
45.5	70.037
46.0	63.335
46.5	57.620
47.0	52.788
47.5	48.631
48.0	44.994
48.5	41.773
49.0	38.915
49.5	36.369
50.0	33.980
50.5	31.849
51.0	29.875
51.5	28.056
52.0	26.394
52.5	24.783
53.0	23.276
53.5	21.822
54.0	20.471
54.5	19.172

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CANDELA TABULATION - (Cont.)

55.0	18.029
55.5	16.990
56.0	16.055
56.5	15.171
57.0	14.392
57.5	13.665
58.0	12.989
58.5	12.366
59.0	11.794
59.5	11.171
60.0	10.651
60.5	10.080
61.0	9.612
61.5	9.092
62.0	8.625
62.5	8.157
63.0	7.742
63.5	7.274
64.0	6.858
64.5	6.443
65.0	6.027
65.5	5.663
66.0	5.300
66.5	4.884
67.0	4.572
67.5	4.208
68.0	3.897
68.5	3.637
69.0	3.325
69.5	3.065
70.0	2.806
70.5	2.598
71.0	2.390
71.5	2.182
72.0	1.974
72.5	1.818
73.0	1.663
73.5	1.507
74.0	1.403
74.5	1.247
75.0	1.143
75.5	1.039
76.0	0.935
76.5	0.883
77.0	0.779
77.5	0.675
78.0	0.623
78.5	0.572
79.0	0.520
79.5	0.468
80.0	0.416
80.5	0.364
81.0	0.312
81.5	0.312
82.0	0.260
82.5	0.208

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CANDELA TABULATION - (Cont.)

83.0	0.208
83.5	0.156
84.0	0.156
84.5	0.156
85.0	0.104
85.5	0.104
86.0	0.104
86.5	0.052
87.0	0.052
87.5	0.052
88.0	0.052
88.5	0.052
89.0	0.052
89.5	0.052
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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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	408.54	N.A.	31.70
0-30	844.57	N.A.	65.60
0-40	1184.61	N.A.	92.00
0-60	1280.28	N.A.	99.40
0-80	1287.81	N.A.	100.00
0-90	1287.97	N.A.	100.00
10-90	1185.82	N.A.	92.10
20-40	776.06	N.A.	60.30
20-50	854.42	N.A.	66.30
40-70	101.83	N.A.	7.90
60-80	7.53	N.A.	0.60
70-80	1.37	N.A.	0.10
80-90	0.16	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	1287.97	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	102.15
10-20	306.39
20-30	436.02
30-40	340.04
40-50	78.36
50-60	17.32
60-70	6.16
70-80	1.37
80-90	0.16
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

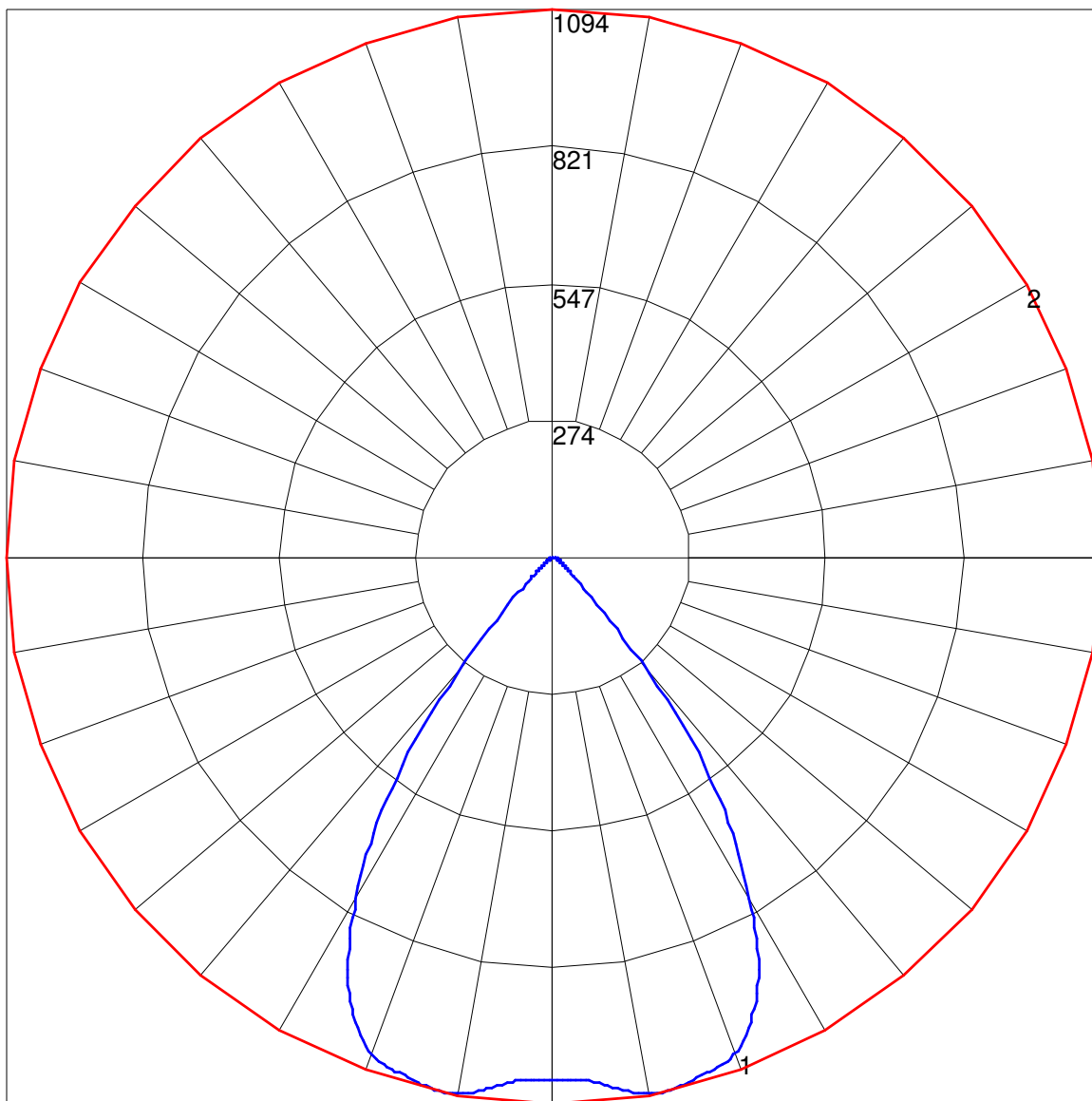
X=2H	Y=2H	9.7	10.7	10.1	11.1	11.4	9.7	10.7	10.1	11.1	11.4
	3H	10.0	10.9	10.4	11.2	11.6	10.0	10.9	10.4	11.2	11.6
	4H	10.0	10.8	10.4	11.1	11.5	10.0	10.8	10.4	11.1	11.5
	6H	9.9	10.6	10.3	11.0	11.4	9.9	10.6	10.3	11.0	11.4
	8H	9.9	10.5	10.3	10.9	11.3	9.9	10.5	10.3	10.9	11.3
	12H	9.8	10.5	10.2	10.8	11.3	9.8	10.5	10.2	10.8	11.3

UGR Viewed Endwise

4H	2H	9.8	10.6	10.2	11.0	11.3	9.8	10.6	10.2	11.0	11.3
	3H	10.1	10.8	10.5	11.2	11.6	10.1	10.8	10.5	11.2	11.6
	4H	10.1	10.7	10.5	11.1	11.5	10.1	10.7	10.5	11.1	11.5
	6H	10.0	10.5	10.5	10.9	11.4	10.0	10.5	10.5	10.9	11.4
	8H	9.9	10.4	10.4	10.8	11.3	9.9	10.4	10.4	10.8	11.3
	12H	9.9	10.3	10.4	10.8	11.2	9.9	10.3	10.4	10.8	11.2
8H	4H	9.9	10.4	10.4	10.9	11.3	9.9	10.4	10.4	10.9	11.3
	6H	9.8	10.2	10.4	10.7	11.2	9.8	10.2	10.4	10.7	11.2
	8H	9.8	10.1	10.3	10.6	11.1	9.8	10.1	10.3	10.6	11.1
	12H	9.7	10.0	10.2	10.5	11.1	9.7	10.0	10.2	10.5	11.1
12H	4H	9.9	10.3	10.4	10.8	11.2	9.9	10.3	10.4	10.8	11.2
	6H	9.8	10.1	10.3	10.6	11.1	9.8	10.1	10.3	10.6	11.1
	8H	9.7	10.0	10.2	10.5	11.1	9.7	10.0	10.2	10.5	11.1

Maximum UGR = 11.6

POLAR GRAPH



Maximum Candela = 1094.202 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.)