



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L9-840-XXX-DIM-UNV-OW-CS-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM 13131414.01
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 04-26-2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-xx-L9-840-xxx-DIM-UNV-OW-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	938
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	88
Total Luminaire Watts	10.7
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	25453	25453	25453
55	7245	7245	7245
65	3287	3287	3287
75	1017	1017	1017
85	276	276	276

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CANDELA TABULATION

	<u>0</u>
0.0	760.919
0.5	760.919
1.0	760.919
1.5	761.297
2.0	761.676
2.5	762.054
3.0	762.432
3.5	763.568
4.0	765.081
4.5	766.973
5.0	769.243
5.5	771.892
6.0	774.162
6.5	777.189
7.0	780.216
7.5	783.243
8.0	786.649
8.5	789.297
9.0	791.568
9.5	793.081
10.0	794.595
10.5	795.730
11.0	796.487
11.5	796.865
12.0	796.487
12.5	796.108
13.0	794.973
13.5	793.838
14.0	792.324
14.5	791.189
15.0	789.676
15.5	788.162
16.0	786.270
16.5	785.135
17.0	783.622
17.5	782.487
18.0	781.730
18.5	780.595
19.0	778.703
19.5	775.297
20.0	771.892
20.5	767.351
21.0	762.054
21.5	756.378
22.0	750.703
22.5	743.892
23.0	736.703
23.5	728.757
24.0	720.811
24.5	712.487
25.0	703.405
25.5	693.568
26.0	682.973
26.5	671.243

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L9-840-XXX-DIM-UNV-OW-CS-XX_.IES****CANDELA TABULATION - (Cont.)**

27.0	658.757
27.5	644.378
28.0	630.757
28.5	616.378
29.0	602.378
29.5	588.378
30.0	573.622
30.5	558.487
31.0	542.973
31.5	527.081
32.0	511.946
32.5	496.054
33.0	479.784
33.5	463.514
34.0	446.487
34.5	429.459
35.0	412.054
35.5	393.892
36.0	375.086
36.5	355.373
37.0	334.297
37.5	311.935
38.0	288.816
38.5	265.243
39.0	241.784
39.5	219.043
40.0	197.400
40.5	177.043
41.0	158.049
41.5	140.303
42.0	123.730
42.5	108.519
43.0	94.784
43.5	82.676
44.0	72.459
44.5	63.946
45.0	56.870
45.5	51.005
46.0	46.124
46.5	41.962
47.0	38.443
47.5	35.416
48.0	32.768
48.5	30.422
49.0	28.341
49.5	26.486
50.0	24.746
50.5	23.195
51.0	21.757
51.5	20.432
52.0	19.222
52.5	18.049
53.0	16.951
53.5	15.892
54.0	14.908
54.5	13.962

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55.0	13.130
55.5	12.373
56.0	11.692
56.5	11.049
57.0	10.481
57.5	9.951
58.0	9.459
58.5	9.005
59.0	8.589
59.5	8.135
60.0	7.757
60.5	7.341
61.0	7.000
61.5	6.622
62.0	6.281
62.5	5.941
63.0	5.638
63.5	5.297
64.0	4.995
64.5	4.692
65.0	4.389
65.5	4.124
66.0	3.859
66.5	3.557
67.0	3.330
67.5	3.065
68.0	2.838
68.5	2.649
69.0	2.422
69.5	2.232
70.0	2.043
70.5	1.892
71.0	1.741
71.5	1.589
72.0	1.438
72.5	1.324
73.0	1.211
73.5	1.097
74.0	1.022
74.5	0.908
75.0	0.832
75.5	0.757
76.0	0.681
76.5	0.643
77.0	0.568
77.5	0.492
78.0	0.454
78.5	0.416
79.0	0.378
79.5	0.341
80.0	0.303
80.5	0.265
81.0	0.227
81.5	0.227
82.0	0.189
82.5	0.151

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CANDELA TABULATION - (Cont.)

83.0	0.151
83.5	0.114
84.0	0.114
84.5	0.114
85.0	0.076
85.5	0.076
86.0	0.076
86.5	0.038
87.0	0.038
87.5	0.038
88.0	0.038
88.5	0.038
89.0	0.038
89.5	0.038
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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L9-840-XXX-DIM-UNV-OW-CS-XX_.IES****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
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129.5	0.000
130.0	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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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	297.53	N.A.	31.70
0-30	615.07	N.A.	65.60
0-40	862.70	N.A.	92.00
0-60	932.38	N.A.	99.40
0-80	937.86	N.A.	100.00
0-90	937.98	N.A.	100.00
10-90	863.59	N.A.	92.10
20-40	565.18	N.A.	60.30
20-50	622.24	N.A.	66.30
40-70	74.16	N.A.	7.90
60-80	5.48	N.A.	0.60
70-80	1.00	N.A.	0.10
80-90	0.12	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	937.98	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	74.39
10-20	223.13
20-30	317.54
30-40	247.64
40-50	57.07
50-60	12.61
60-70	4.49
70-80	1.00
80-90	0.12
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

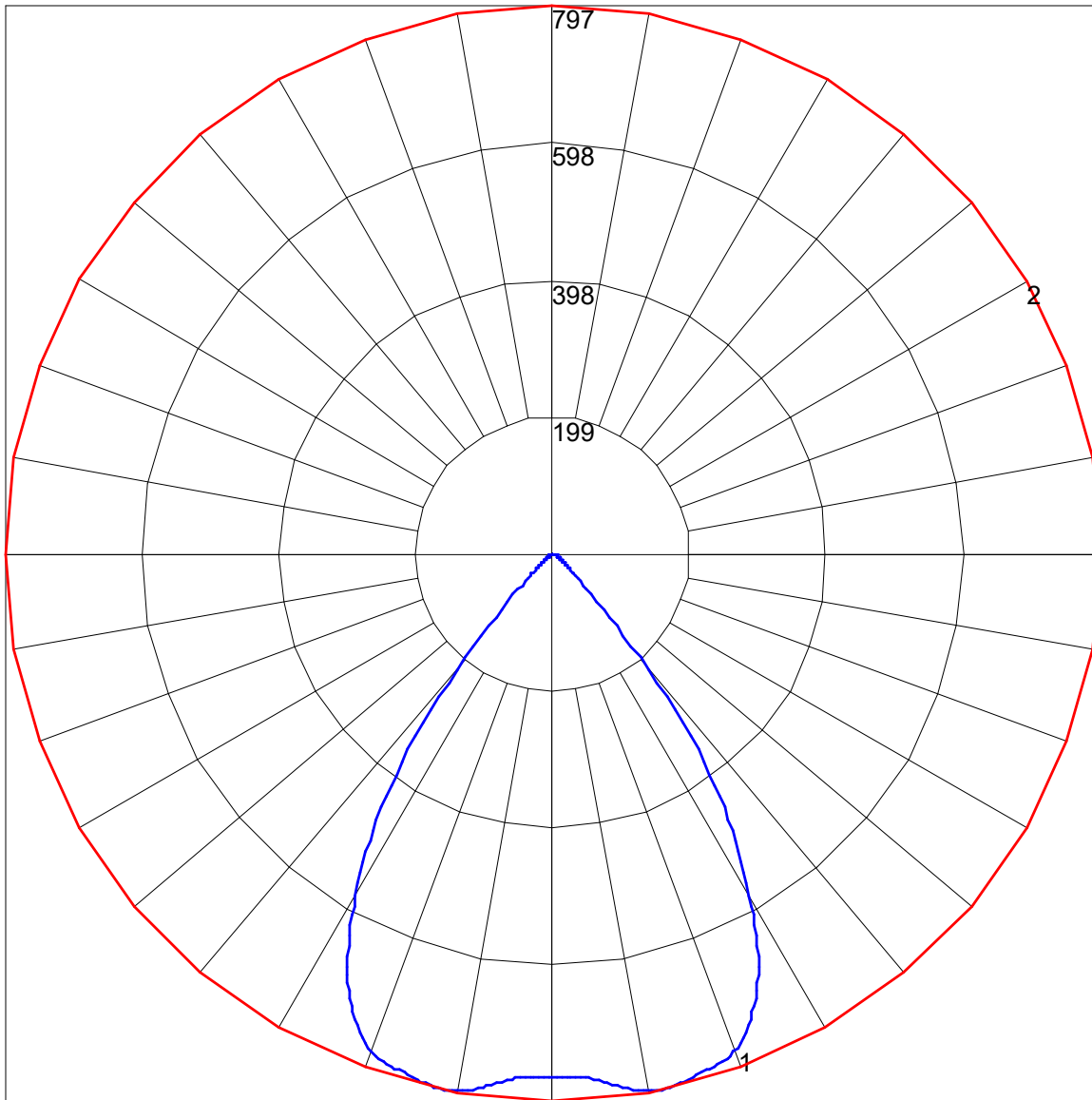
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UGR TABLE - CORRECTED

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					UGR Viewed Endwise				
X=2H	Y=2H	8.6	9.7	9.0	10.0	10.3	8.6	9.7	9.0	10.0	10.3
	3H	8.9	9.8	9.3	10.1	10.5	8.9	9.8	9.3	10.1	10.5
	4H	8.9	9.7	9.3	10.0	10.4	8.9	9.7	9.3	10.0	10.4
	6H	8.8	9.5	9.2	9.9	10.3	8.8	9.5	9.2	9.9	10.3
	8H	8.8	9.4	9.2	9.8	10.2	8.8	9.4	9.2	9.8	10.2
	12H	8.7	9.4	9.1	9.7	10.2	8.7	9.4	9.1	9.7	10.2
4H	2H	8.7	9.5	9.1	9.9	10.2	8.7	9.5	9.1	9.9	10.2
	3H	9.0	9.7	9.4	10.1	10.5	9.0	9.7	9.4	10.1	10.5
	4H	9.0	9.6	9.4	10.0	10.4	9.0	9.6	9.4	10.0	10.4
	6H	8.9	9.4	9.4	9.9	10.3	8.9	9.4	9.4	9.9	10.3
	8H	8.8	9.3	9.3	9.8	10.2	8.8	9.3	9.3	9.8	10.2
	12H	8.8	9.2	9.3	9.7	10.1	8.8	9.2	9.3	9.7	10.1
8H	4H	8.8	9.3	9.3	9.8	10.2	8.8	9.3	9.3	9.8	10.2
	6H	8.7	9.1	9.3	9.6	10.1	8.7	9.1	9.3	9.6	10.1
	8H	8.7	9.0	9.2	9.5	10.0	8.7	9.0	9.2	9.5	10.0
	12H	8.7	8.9	9.2	9.4	10.0	8.7	8.9	9.2	9.4	10.0
12H	4H	8.8	9.2	9.3	9.7	10.1	8.8	9.2	9.3	9.7	10.1
	6H	8.7	9.0	9.2	9.5	10.0	8.7	9.0	9.2	9.5	10.0
	8H	8.7	8.9	9.2	9.4	10.0	8.7	8.9	9.2	9.4	10.0

Maximum UGR = 10.5

POLAR GRAPH



Maximum Candela = 796.865 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.)