



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 13131414.04
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 09/13/2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-xx-L15-835-xxx-DIM-UNV-OW-OF-SG-xx
 [LUMINAIRE] 4 INCH DIA. LED DOWNLIGHT CYLINDER
 [MORE] WITH OPEN, WIDE DISTRIBUTION ANODIZED TRIM
 [LAMP] COB LED
 [LAMPCAT] BRIDGELUX VERO COB 80 CRI 3500K CCT
 [SEARCH_SOURCETYPE] LED
 [SEARCH_APPLICATION] Indoor, Downlight
 [SEARCH_MOUNTING] Pendant

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1445
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	82
Total Luminaire Watts	17.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.02
Spacing Criterion (90-270)	1.02
Spacing Criterion (Diagonal)	0.88
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	89846	89846	89846
55	34622	34622	34622
65	12543	12543	12543
75	4570	4570	4570
85	1405	1405	1405

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES

CANDELA TABULATION

	<u>0</u>
0.0	1311.645
0.5	1311.645
1.0	1311.001
1.5	1309.712
2.0	1308.424
2.5	1306.491
3.0	1304.559
3.5	1302.626
4.0	1300.049
4.5	1298.761
5.0	1296.828
5.5	1296.184
6.0	1294.895
6.5	1294.251
7.0	1293.607
7.5	1292.963
8.0	1292.963
8.5	1292.318
9.0	1291.674
9.5	1291.674
10.0	1291.674
10.5	1291.030
11.0	1291.030
11.5	1291.030
12.0	1291.030
12.5	1291.030
13.0	1289.741
13.5	1288.453
14.0	1285.876
14.5	1283.299
15.0	1279.434
15.5	1275.568
16.0	1271.703
16.5	1267.838
17.0	1263.972
17.5	1260.107
18.0	1255.597
18.5	1250.444
19.0	1245.290
19.5	1239.492
20.0	1233.694
20.5	1225.319
21.0	1216.944
21.5	1203.415
22.0	1186.021
22.5	1165.406
23.0	1143.502
23.5	1119.666
24.0	1094.541
24.5	1066.195
25.0	1035.916
25.5	999.840
26.0	961.830
26.5	919.955

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES****CANDELA TABULATION - (Cont.)**

27.0	876.792
27.5	832.985
28.0	789.177
28.5	746.659
29.0	706.072
29.5	668.707
30.0	634.821
30.5	604.027
31.0	575.488
31.5	548.881
32.0	523.563
32.5	499.662
33.0	477.952
33.5	459.269
34.0	443.292
34.5	430.343
35.0	419.391
35.5	409.470
36.0	399.292
36.5	388.533
37.0	377.581
37.5	366.565
38.0	355.355
38.5	343.824
39.0	332.228
39.5	320.503
40.0	308.778
40.5	297.053
41.0	285.392
41.5	273.990
42.0	262.780
42.5	251.828
43.0	241.005
43.5	230.504
44.0	220.261
44.5	210.340
45.0	200.741
45.5	191.529
46.0	182.574
46.5	173.877
47.0	165.631
47.5	157.578
48.0	149.847
48.5	142.310
49.0	134.901
49.5	127.557
50.0	120.470
50.5	113.642
51.0	107.070
51.5	100.821
52.0	94.766
52.5	88.903
53.0	83.170
53.5	77.629
54.0	72.411
54.5	67.451

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES****CANDELA TABULATION - (Cont.)**

55.0	62.748
55.5	58.302
56.0	54.244
56.5	50.443
57.0	46.964
57.5	43.807
58.0	40.908
58.5	38.203
59.0	35.690
59.5	33.435
60.0	31.309
60.5	29.377
61.0	27.573
61.5	25.898
62.0	24.352
62.5	22.870
63.0	21.453
63.5	20.164
64.0	19.005
64.5	17.845
65.0	16.750
65.5	15.719
66.0	14.688
66.5	13.786
67.0	12.885
67.5	12.047
68.0	11.210
68.5	10.436
69.0	9.728
69.5	9.019
70.0	8.375
70.5	7.795
71.0	7.215
71.5	6.700
72.0	6.185
72.5	5.669
73.0	5.218
73.5	4.832
74.0	4.445
74.5	4.059
75.0	3.737
75.5	3.414
76.0	3.092
76.5	2.835
77.0	2.577
77.5	2.319
78.0	2.126
78.5	1.933
79.0	1.739
79.5	1.546
80.0	1.353
80.5	1.224
81.0	1.095
81.5	0.966
82.0	0.902
82.5	0.773

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES****CANDELA TABULATION - (Cont.)**

83.0	0.709
83.5	0.580
84.0	0.515
84.5	0.451
85.0	0.387
85.5	0.322
86.0	0.258
86.5	0.258
87.0	0.193
87.5	0.129
88.0	0.129
88.5	0.129
89.0	0.064
89.5	0.064
90.0	0.064
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-L15-835-XXX-DIM-UNV-OW-OF-SG-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
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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-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
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

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES

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

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	483.84	N.A.	33.50
0-30	935.07	N.A.	64.70
0-40	1205.93	N.A.	83.50
0-60	1422.71	N.A.	98.50
0-80	1444.48	N.A.	100.00
0-90	1445.02	N.A.	100.00
10-90	1321.34	N.A.	91.40
20-40	722.09	N.A.	50.00
20-50	879.29	N.A.	60.80
40-70	234.23	N.A.	16.20
60-80	21.78	N.A.	1.50
70-80	4.32	N.A.	0.30
80-90	0.54	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	1445.02	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	123.68
10-20	360.16
20-30	451.23
30-40	270.86
40-50	157.20
50-60	59.58
60-70	17.45
70-80	4.32
80-90	0.54
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

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES

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	107	105	111	108	105	103	104	102	100	100	99	97	97	95	94	93
2	107	102	97	94	105	100	96	92	97	93	90	94	91	89	91	89	87	85
3	101	94	89	84	99	92	88	84	90	86	82	87	84	81	85	82	80	78
4	95	87	81	77	93	86	80	76	84	79	75	82	78	74	80	76	73	72
5	90	81	75	70	88	80	74	70	78	73	69	76	72	68	75	71	68	66
6	85	75	69	64	83	75	69	64	73	68	64	72	67	63	70	66	63	61
7	80	71	64	60	79	70	64	59	68	63	59	67	62	59	66	62	58	57
8	76	66	60	55	75	65	59	55	64	59	55	63	58	55	62	58	54	53
9	72	62	56	52	71	62	56	51	61	55	51	60	55	51	59	54	51	49
10	69	58	52	48	68	58	52	48	57	52	48	56	51	48	56	51	48	46

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L15-835-XXX-DIM-UNV-OW-OF-SG-XX_.IES

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

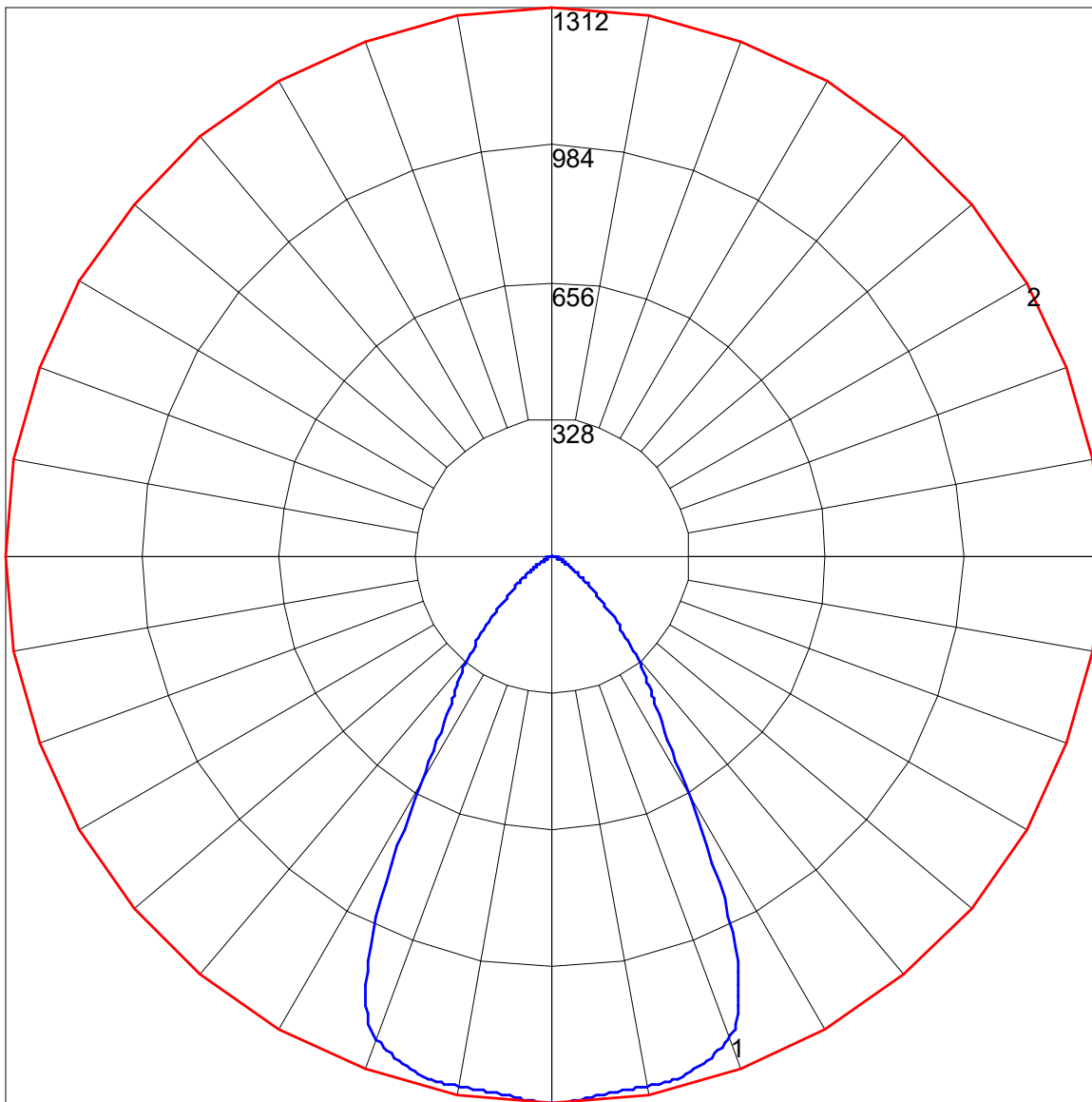
X=2H	Y=2H	17.3	18.4	17.7	18.7	19.0	17.3	18.4	17.7	18.7	19.0
	3H	17.5	18.5	17.9	18.8	19.2	17.5	18.5	17.9	18.8	19.2
	4H	17.5	18.4	17.9	18.7	19.1	17.5	18.4	17.9	18.7	19.1
	6H	17.4	18.2	17.8	18.6	19.0	17.4	18.2	17.8	18.6	19.0
	8H	17.4	18.1	17.8	18.5	18.9	17.4	18.1	17.8	18.5	18.9
	12H	17.3	18.0	17.8	18.4	18.9	17.3	18.0	17.8	18.4	18.9

UGR Viewed Endwise

4H	2H	17.3	18.2	17.7	18.5	18.9	17.3	18.2	17.7	18.5	18.9
	3H	17.6	18.3	18.0	18.7	19.1	17.6	18.3	18.0	18.7	19.1
	4H	17.5	18.2	18.0	18.6	19.0	17.5	18.2	18.0	18.6	19.0
	6H	17.5	18.0	18.0	18.5	18.9	17.5	18.0	18.0	18.5	18.9
	8H	17.4	17.9	17.9	18.4	18.9	17.4	17.9	17.9	18.4	18.9
	12H	17.4	17.8	17.9	18.3	18.8	17.4	17.8	17.9	18.3	18.8
8H	4H	17.4	17.9	17.9	18.4	18.9	17.4	17.9	17.9	18.4	18.9
	6H	17.4	17.8	17.9	18.3	18.7	17.4	17.8	17.9	18.3	18.7
	8H	17.3	17.7	17.8	18.2	18.7	17.3	17.7	17.8	18.2	18.7
	12H	17.3	17.6	17.8	18.1	18.6	17.3	17.6	17.8	18.1	18.6
12H	4H	17.4	17.8	17.9	18.3	18.8	17.4	17.8	17.9	18.3	18.8
	6H	17.3	17.7	17.8	18.1	18.7	17.3	17.7	17.8	18.1	18.7
	8H	17.3	17.6	17.8	18.1	18.6	17.3	17.6	17.8	18.1	18.6

Maximum UGR = 19.2

POLAR GRAPH



Maximum Candela = 1311.645 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.)