



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-XX-L15-840-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] 05-12-2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-xx-L15-840-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 4000K 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	1587
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
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	98675	98675	98675
55	38024	38024	38024
65	13776	13776	13776
75	5018	5018	5018
85	1543	1543	1543

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CANDELA TABULATION

	<u>0</u>
0.0	1440.540
0.5	1440.540
1.0	1439.833
1.5	1438.418
2.0	1437.003
2.5	1434.880
3.0	1432.758
3.5	1430.635
4.0	1427.805
4.5	1426.390
5.0	1424.267
5.5	1423.560
6.0	1422.145
6.5	1421.437
7.0	1420.729
7.5	1420.022
8.0	1420.022
8.5	1419.314
9.0	1418.607
9.5	1418.607
10.0	1418.607
10.5	1417.899
11.0	1417.899
11.5	1417.899
12.0	1417.899
12.5	1417.899
13.0	1416.484
13.5	1415.069
14.0	1412.239
14.5	1409.409
15.0	1405.164
15.5	1400.919
16.0	1396.673
16.5	1392.428
17.0	1388.183
17.5	1383.938
18.0	1378.985
18.5	1373.325
19.0	1367.664
19.5	1361.297
20.0	1354.929
20.5	1345.731
21.0	1336.533
21.5	1321.675
22.0	1302.571
22.5	1279.930
23.0	1255.874
23.5	1229.695
24.0	1202.101
24.5	1170.970
25.0	1137.716
25.5	1098.094
26.0	1056.349
26.5	1010.359

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CANDELA TABULATION - (Cont.)

27.0	962.955
27.5	914.842
28.0	866.730
28.5	820.033
29.0	775.458
29.5	734.421
30.0	697.205
30.5	663.384
31.0	632.041
31.5	602.819
32.0	575.013
32.5	548.764
33.0	524.920
33.5	504.401
34.0	486.855
34.5	472.633
35.0	460.605
35.5	449.709
36.0	438.530
36.5	426.714
37.0	414.686
37.5	402.587
38.0	390.276
38.5	377.611
39.0	364.876
39.5	351.998
40.0	339.121
40.5	326.244
41.0	313.438
41.5	300.914
42.0	288.603
42.5	276.575
43.0	264.689
43.5	253.156
44.0	241.906
44.5	231.010
45.0	220.468
45.5	210.350
46.0	200.515
46.5	190.964
47.0	181.907
47.5	173.063
48.0	164.573
48.5	156.294
49.0	148.158
49.5	140.092
50.0	132.309
50.5	124.809
51.0	117.592
51.5	110.729
52.0	104.078
52.5	97.640
53.0	91.343
53.5	85.258
54.0	79.527
54.5	74.079

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4CR-XX-L15-840-XXX-DIM-UNV-OW-OF-SG-XX_.IES****CANDELA TABULATION - (Cont.)**

55.0	68.914
55.5	64.032
56.0	59.574
56.5	55.400
57.0	51.579
57.5	48.112
58.0	44.928
58.5	41.957
59.0	39.197
59.5	36.721
60.0	34.386
60.5	32.264
61.0	30.282
61.5	28.443
62.0	26.745
62.5	25.117
63.0	23.561
63.5	22.146
64.0	20.872
64.5	19.599
65.0	18.396
65.5	17.264
66.0	16.132
66.5	15.141
67.0	14.151
67.5	13.231
68.0	12.311
68.5	11.462
69.0	10.684
69.5	9.905
70.0	9.198
70.5	8.561
71.0	7.924
71.5	7.358
72.0	6.792
72.5	6.226
73.0	5.731
73.5	5.307
74.0	4.882
74.5	4.457
75.0	4.104
75.5	3.750
76.0	3.396
76.5	3.113
77.0	2.830
77.5	2.547
78.0	2.335
78.5	2.123
79.0	1.910
79.5	1.698
80.0	1.486
80.5	1.344
81.0	1.203
81.5	1.061
82.0	0.991
82.5	0.849

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CANDELA TABULATION - (Cont.)

83.0	0.778
83.5	0.637
84.0	0.566
84.5	0.495
85.0	0.425
85.5	0.354
86.0	0.283
86.5	0.283
87.0	0.212
87.5	0.142
88.0	0.142
88.5	0.142
89.0	0.071
89.5	0.071
90.0	0.071
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-L15-840-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

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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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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	531.38	N.A.	33.50
0-30	1026.96	N.A.	64.70
0-40	1324.44	N.A.	83.50
0-60	1562.52	N.A.	98.50
0-80	1586.43	N.A.	100.00
0-90	1587.02	N.A.	100.00
10-90	1451.19	N.A.	91.40
20-40	793.05	N.A.	50.00
20-50	965.70	N.A.	60.80
40-70	257.25	N.A.	16.20
60-80	23.92	N.A.	1.50
70-80	4.75	N.A.	0.30
80-90	0.59	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	1587.02	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	135.83
10-20	395.55
20-30	495.57
30-40	297.48
40-50	172.64
50-60	65.44
60-70	19.17
70-80	4.75
80-90	0.59
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	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

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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

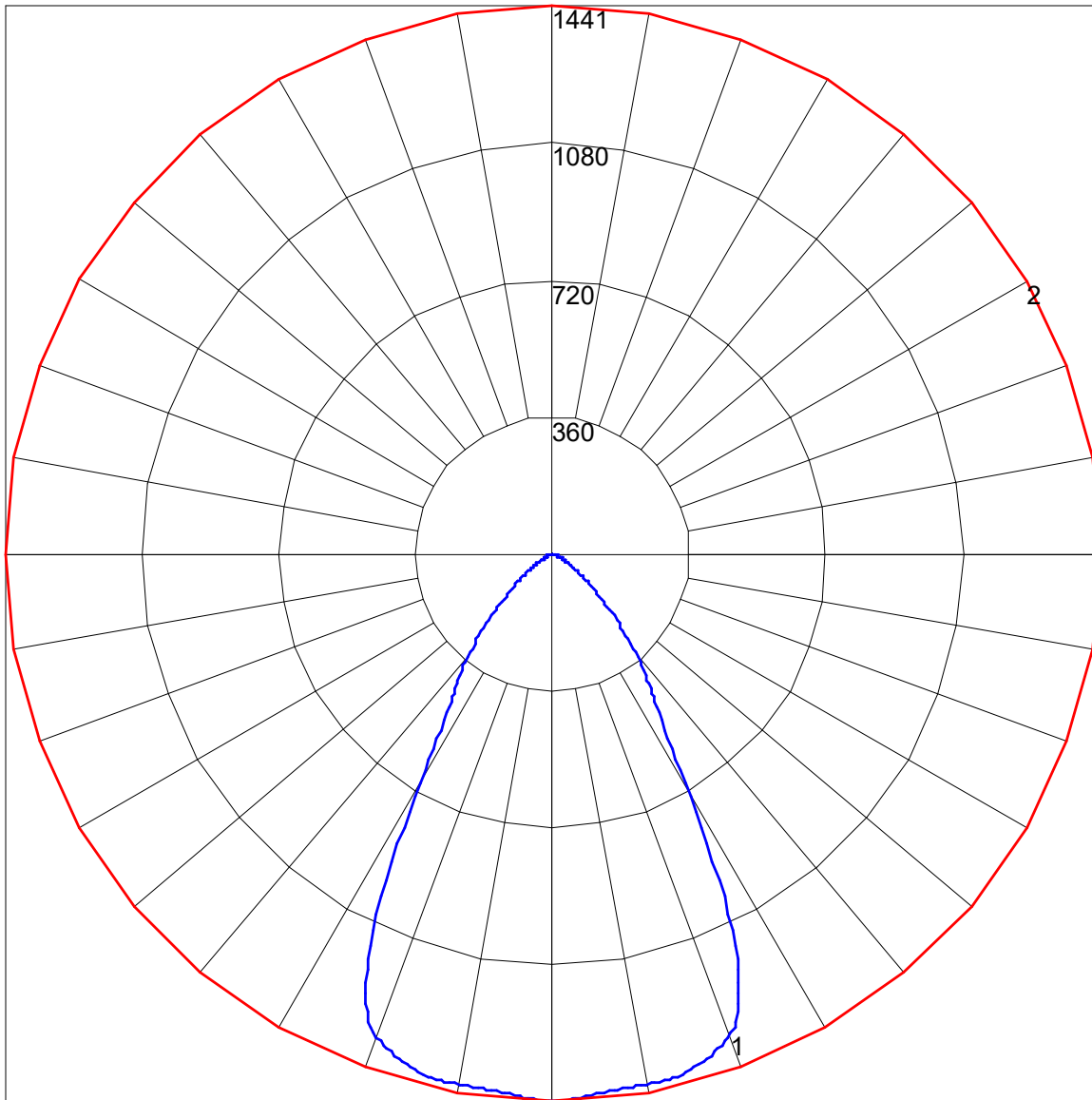
X=2H	Y=2H	17.6	18.7	18.0	19.0	19.3	17.6	18.7	18.0	19.0	19.3
	3H	17.8	18.8	18.2	19.1	19.5	17.8	18.8	18.2	19.1	19.5
	4H	17.8	18.7	18.2	19.0	19.4	17.8	18.7	18.2	19.0	19.4
	6H	17.7	18.5	18.1	18.9	19.3	17.7	18.5	18.1	18.9	19.3
	8H	17.7	18.4	18.1	18.8	19.2	17.7	18.4	18.1	18.8	19.2
	12H	17.6	18.3	18.1	18.7	19.2	17.6	18.3	18.1	18.7	19.2

UGR Viewed Endwise

4H	2H	17.6	18.5	18.0	18.8	19.2	17.6	18.5	18.0	18.8	19.2
	3H	17.9	18.6	18.3	19.0	19.4	17.9	18.6	18.3	19.0	19.4
	4H	17.8	18.5	18.3	18.9	19.4	17.8	18.5	18.3	18.9	19.4
	6H	17.8	18.3	18.3	18.8	19.3	17.8	18.3	18.3	18.8	19.3
	8H	17.7	18.2	18.2	18.7	19.2	17.7	18.2	18.2	18.7	19.2
	12H	17.7	18.1	18.2	18.6	19.1	17.7	18.1	18.2	18.6	19.1
8H	4H	17.7	18.2	18.2	18.7	19.2	17.7	18.2	18.2	18.7	19.2
	6H	17.7	18.1	18.2	18.6	19.1	17.7	18.1	18.2	18.6	19.1
	8H	17.6	18.0	18.1	18.5	19.0	17.6	18.0	18.1	18.5	19.0
	12H	17.6	17.9	18.1	18.4	19.0	17.6	17.9	18.1	18.4	19.0
12H	4H	17.7	18.1	18.2	18.6	19.1	17.7	18.1	18.2	18.6	19.1
	6H	17.6	18.0	18.1	18.4	19.0	17.6	18.0	18.1	18.4	19.0
	8H	17.6	17.9	18.1	18.4	18.9	17.6	17.9	18.1	18.4	18.9

Maximum UGR = 19.5

POLAR GRAPH



Maximum Candela = 1440.54 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.)