



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L9-835-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.
 [ISSUE DATE] 09/14/2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836
 [LUMCAT] 4CR-L12-835-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	855
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	80
Total Luminaire Watts	10.7
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	53162	53162	53162
55	20486	20486	20486
65	7422	7422	7422
75	2704	2704	2704
85	832	832	832

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CANDELA TABULATION

	<u>0</u>
0.0	776.094
0.5	776.094
1.0	775.713
1.5	774.951
2.0	774.189
2.5	773.045
3.0	771.901
3.5	770.758
4.0	769.233
4.5	768.471
5.0	767.327
5.5	766.946
6.0	766.184
6.5	765.802
7.0	765.421
7.5	765.040
8.0	765.040
8.5	764.659
9.0	764.278
9.5	764.278
10.0	764.278
10.5	763.897
11.0	763.897
11.5	763.897
12.0	763.897
12.5	763.897
13.0	763.134
13.5	762.372
14.0	760.847
14.5	759.322
15.0	757.035
15.5	754.748
16.0	752.461
16.5	750.174
17.0	747.887
17.5	745.600
18.0	742.931
18.5	739.882
19.0	736.832
19.5	733.402
20.0	729.971
20.5	725.016
21.0	720.060
21.5	712.055
22.0	701.763
22.5	689.565
23.0	676.605
23.5	662.501
24.0	647.635
24.5	630.863
25.0	612.947
25.5	591.601
26.0	569.111
26.5	544.333

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CANDELA TABULATION - (Cont.)

27.0	518.794
27.5	492.873
28.0	466.953
28.5	441.794
29.0	417.780
29.5	395.671
30.0	375.621
30.5	357.400
31.0	340.513
31.5	324.770
32.0	309.790
32.5	295.648
33.0	282.802
33.5	271.747
34.0	262.294
34.5	254.632
35.0	248.152
35.5	242.282
36.0	236.259
36.5	229.893
37.0	223.413
37.5	216.895
38.0	210.262
38.5	203.439
39.0	196.578
39.5	189.640
40.0	182.702
40.5	175.765
41.0	168.865
41.5	162.118
42.0	155.486
42.5	149.006
43.0	142.602
43.5	136.388
44.0	130.327
44.5	124.457
45.0	118.778
45.5	113.327
46.0	108.028
46.5	102.882
47.0	98.003
47.5	93.238
48.0	88.664
48.5	84.204
49.0	79.820
49.5	75.475
50.0	71.282
50.5	67.241
51.0	63.353
51.5	59.656
52.0	56.072
52.5	52.604
53.0	49.211
53.5	45.933
54.0	42.845
54.5	39.910

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CANDELA TABULATION - (Cont.)

55.0	37.128
55.5	34.497
56.0	32.096
56.5	29.847
57.0	27.788
57.5	25.921
58.0	24.205
58.5	22.604
59.0	21.118
59.5	19.784
60.0	18.526
60.5	17.382
61.0	16.315
61.5	15.324
62.0	14.409
62.5	13.532
63.0	12.693
63.5	11.931
64.0	11.245
64.5	10.559
65.0	9.911
65.5	9.301
66.0	8.691
66.5	8.157
67.0	7.624
67.5	7.128
68.0	6.633
68.5	6.175
69.0	5.756
69.5	5.337
70.0	4.955
70.5	4.612
71.0	4.269
71.5	3.964
72.0	3.659
72.5	3.354
73.0	3.088
73.5	2.859
74.0	2.630
74.5	2.401
75.0	2.211
75.5	2.020
76.0	1.830
76.5	1.677
77.0	1.525
77.5	1.372
78.0	1.258
78.5	1.144
79.0	1.029
79.5	0.915
80.0	0.800
80.5	0.724
81.0	0.648
81.5	0.572
82.0	0.534
82.5	0.457

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CANDELA TABULATION - (Cont.)

83.0	0.419
83.5	0.343
84.0	0.305
84.5	0.267
85.0	0.229
85.5	0.191
86.0	0.152
86.5	0.152
87.0	0.114
87.5	0.076
88.0	0.076
88.5	0.076
89.0	0.038
89.5	0.038
90.0	0.038
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	286.28	N.A.	33.50
0-30	553.28	N.A.	64.70
0-40	713.54	N.A.	83.50
0-60	841.81	N.A.	98.50
0-80	854.69	N.A.	100.00
0-90	855.01	N.A.	100.00
10-90	781.83	N.A.	91.40
20-40	427.26	N.A.	50.00
20-50	520.27	N.A.	60.80
40-70	138.59	N.A.	16.20
60-80	12.88	N.A.	1.50
70-80	2.56	N.A.	0.30
80-90	0.32	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	855.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	73.18
10-20	213.10
20-30	266.99
30-40	160.27
40-50	93.01
50-60	35.25
60-70	10.33
70-80	2.56
80-90	0.32
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 RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	90	90	90	90	88	88	88	88	84	84	84	81	81	81	77	77	77	76
1	86	84	82	80	84	82	80	78	79	77	76	76	75	74	73	72	72	70
2	81	77	74	71	79	76	73	70	73	71	69	71	69	67	69	67	66	64
3	77	71	67	64	75	70	66	63	68	65	62	66	64	61	65	62	60	59
4	72	66	62	58	71	65	61	58	64	60	57	62	59	56	61	58	56	54
5	68	61	57	53	67	61	56	53	59	55	52	58	55	52	57	54	51	50
6	65	57	52	49	63	57	52	49	55	51	48	54	51	48	53	50	48	47
7	61	54	49	45	60	53	48	45	52	48	45	51	47	45	50	47	44	43
8	58	50	45	42	57	50	45	42	49	45	42	48	44	42	47	44	41	40
9	55	47	42	39	54	47	42	39	46	42	39	45	42	39	45	41	39	38
10	52	44	40	37	51	44	40	37	43	39	36	43	39	36	42	39	36	35

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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

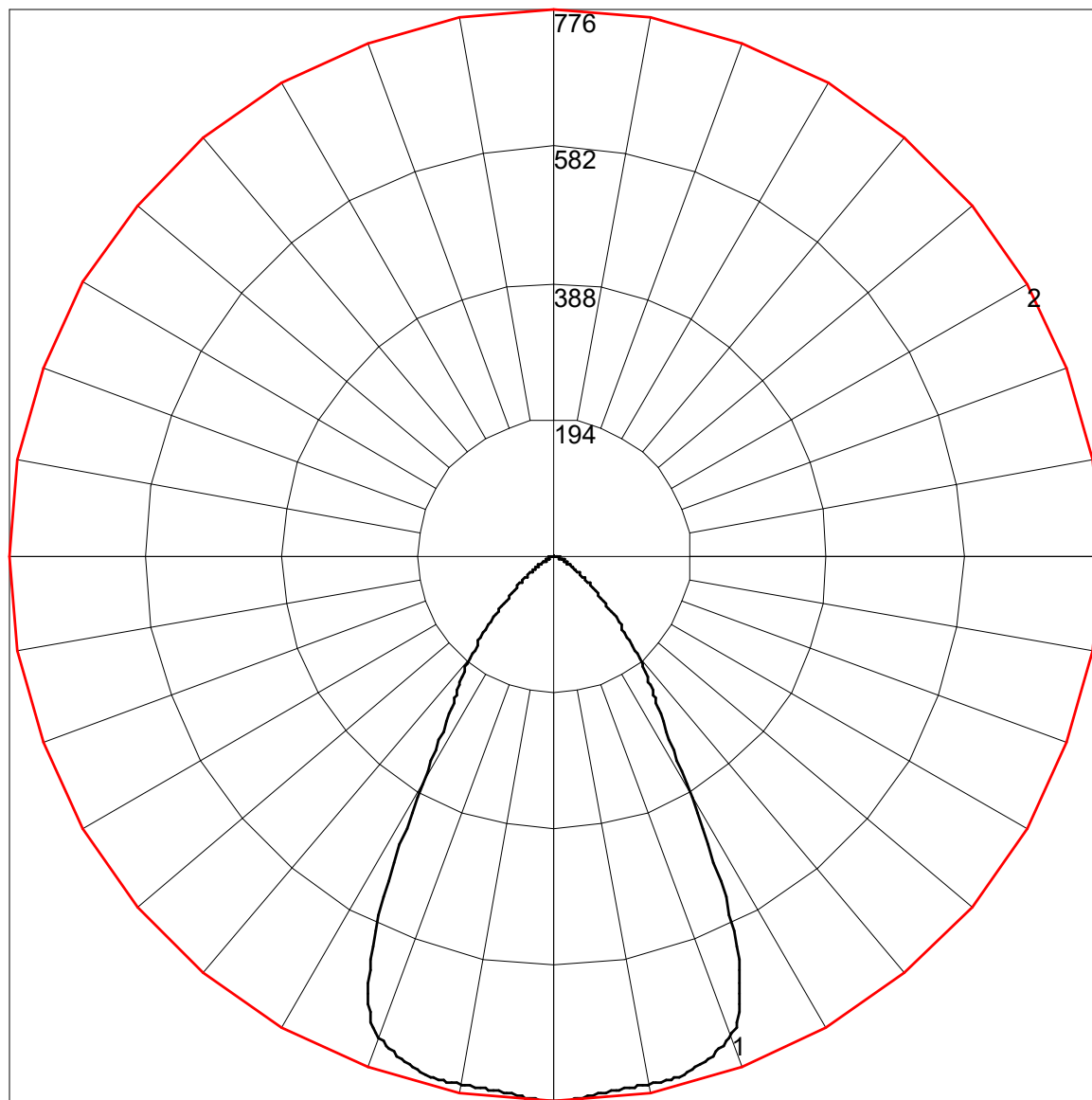
X=2H	Y=2H	16.4	17.5	16.8	17.8	18.1	16.4	17.5	16.8	17.8	18.1
	3H	16.6	17.6	17.0	17.9	18.3	16.6	17.6	17.0	17.9	18.3
	4H	16.6	17.5	17.0	17.8	18.2	16.6	17.5	17.0	17.8	18.2
	6H	16.5	17.3	16.9	17.7	18.1	16.5	17.3	16.9	17.7	18.1
	8H	16.5	17.2	16.9	17.6	18.0	16.5	17.2	16.9	17.6	18.0
	12H	16.4	17.1	16.9	17.5	18.0	16.4	17.1	16.9	17.5	18.0

UGR Viewed Endwise

4H	2H	16.4	17.3	16.8	17.6	18.0	16.4	17.3	16.8	17.6	18.0
	3H	16.7	17.4	17.1	17.8	18.2	16.7	17.4	17.1	17.8	18.2
	4H	16.6	17.3	17.1	17.7	18.1	16.6	17.3	17.1	17.7	18.1
	6H	16.6	17.1	17.1	17.6	18.0	16.6	17.1	17.1	17.6	18.0
	8H	16.5	17.0	17.0	17.5	18.0	16.5	17.0	17.0	17.5	18.0
	12H	16.5	16.9	17.0	17.4	17.9	16.5	16.9	17.0	17.4	17.9
8H	4H	16.5	17.0	17.0	17.5	18.0	16.5	17.0	17.0	17.5	18.0
	6H	16.5	16.9	17.0	17.4	17.8	16.5	16.9	17.0	17.4	17.8
	8H	16.4	16.8	16.9	17.3	17.8	16.4	16.8	16.9	17.3	17.8
	12H	16.4	16.7	16.9	17.2	17.7	16.4	16.7	16.9	17.2	17.7
12H	4H	16.5	16.9	17.0	17.4	17.9	16.5	16.9	17.0	17.4	17.9
	6H	16.4	16.8	16.9	17.2	17.8	16.4	16.8	16.9	17.2	17.8
	8H	16.4	16.7	16.9	17.2	17.7	16.4	16.7	16.9	17.2	17.7

Maximum UGR = 18.3

POLAR GRAPH



Maximum Candela = 776.094 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)