



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-830-DIM-UNV-SW-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.11
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 05/26/2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L10-830-DIM-UNV-SW-OF-WH
 [LUMINAIRE] Black formed aluminum housing, white reflector, frosted pl
 [MORE] astic lens enclosure
 [LAMP] One white LED
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Commercial, Corridor, Hotel, Office, Downlight
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	561
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	62
Total Luminaire Watts	9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.35 ft (Diameter)
Luminous Width (90-270)	0.35 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	20265	20265	20265
55	17297	17297	17297
65	14754	14754	14754
75	12200	12200	12200
85	7551	7551	7551

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CANDELA TABULATION

	<u>0</u>
0.0	236.268
0.5	236.226
1.0	236.100
1.5	235.973
2.0	235.721
2.5	235.468
3.0	235.131
3.5	234.794
4.0	234.457
4.5	234.120
5.0	233.825
5.5	233.489
6.0	233.152
6.5	232.815
7.0	232.436
7.5	232.014
8.0	231.593
8.5	231.172
9.0	230.709
9.5	230.246
10.0	229.740
10.5	229.235
11.0	228.687
11.5	228.098
12.0	227.508
12.5	226.876
13.0	226.203
13.5	225.487
14.0	224.728
14.5	223.928
15.0	223.086
15.5	222.244
16.0	221.359
16.5	220.517
17.0	219.590
17.5	218.664
18.0	217.737
18.5	216.811
19.0	215.884
19.5	214.958
20.0	214.031
20.5	213.105
21.0	212.136
21.5	211.125
22.0	210.072
22.5	208.893
23.0	207.714
23.5	206.408
24.0	205.103
24.5	203.713
25.0	202.281
25.5	200.849
26.0	199.333
26.5	197.817

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CANDELA TABULATION - (Cont.)

27.0	196.258
27.5	194.658
28.0	193.058
28.5	191.499
29.0	189.941
29.5	188.341
30.0	186.782
30.5	185.140
31.0	183.455
31.5	181.813
32.0	180.128
32.5	178.444
33.0	176.717
33.5	174.948
34.0	173.221
34.5	171.452
35.0	169.683
35.5	167.873
36.0	166.062
36.5	164.208
37.0	162.355
37.5	160.502
38.0	158.607
38.5	156.670
39.0	154.817
39.5	152.879
40.0	150.942
40.5	149.047
41.0	147.067
41.5	145.172
42.0	143.193
42.5	141.255
43.0	139.276
43.5	137.255
44.0	135.233
44.5	133.211
45.0	131.148
45.5	129.126
46.0	127.063
46.5	124.999
47.0	122.935
47.5	120.829
48.0	118.766
48.5	116.660
49.0	114.596
49.5	112.533
50.0	110.469
50.5	108.447
51.0	106.426
51.5	104.404
52.0	102.425
52.5	100.446
53.0	98.508
53.5	96.571
54.0	94.634
54.5	92.738

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CANDELA TABULATION - (Cont.)

55.0	90.801
55.5	88.906
56.0	87.179
56.5	85.326
57.0	83.557
57.5	81.788
58.0	80.020
58.5	78.251
59.0	76.566
59.5	74.881
60.0	73.197
60.5	71.596
61.0	69.954
61.5	68.269
62.0	66.627
62.5	64.984
63.0	63.384
63.5	61.783
64.0	60.183
64.5	58.625
65.0	57.067
65.5	55.508
66.0	53.950
66.5	52.434
67.0	50.960
67.5	49.486
68.0	48.012
68.5	46.580
69.0	45.148
69.5	43.716
70.0	42.284
70.5	40.894
71.0	39.513
71.5	38.140
72.0	36.784
72.5	35.449
73.0	34.118
73.5	32.800
74.0	31.494
74.5	30.188
75.0	28.900
75.5	27.628
76.0	26.356
76.5	25.097
77.0	23.854
77.5	22.616
78.0	21.395
78.5	20.194
79.0	19.003
79.5	17.823
80.0	16.674
80.5	15.541
81.0	14.420
81.5	13.309
82.0	12.218
82.5	11.144

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CANDELA TABULATION - (Cont.)

83.0	10.082
83.5	9.034
84.0	8.010
84.5	7.004
85.0	6.023
85.5	5.083
86.0	4.207
86.5	3.441
87.0	2.742
87.5	2.114
88.0	1.575
88.5	1.150
89.0	0.800
89.5	0.518
90.0	0.320
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
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121.0	0.000
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122.0	0.000
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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
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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	85.07	N.A.	15.20
0-30	178.00	N.A.	31.70
0-40	283.94	N.A.	50.60
0-60	466.41	N.A.	83.10
0-80	553.74	N.A.	98.70
0-90	561.19	N.A.	100.00
10-90	538.99	N.A.	96.00
20-40	198.87	N.A.	35.40
20-50	299.87	N.A.	53.40
40-70	239.13	N.A.	42.60
60-80	87.33	N.A.	15.60
70-80	30.67	N.A.	5.50
80-90	7.44	N.A.	1.30
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	561.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	22.19
10-20	62.87
20-30	92.93
30-40	105.95
40-50	101.00
50-60	81.47
60-70	56.67
70-80	30.67
80-90	7.44
90-100	0.01
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	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	85	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	34	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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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	20.7	22.3	21.1	22.6	22.9	20.7	22.3	21.1	22.6	22.9
	3H	22.3	23.7	22.7	24.1	24.4	22.3	23.7	22.7	24.1	24.4
	4H	22.9	24.2	23.3	24.6	24.9	22.9	24.2	23.3	24.6	24.9
	6H	23.3	24.5	23.7	24.9	25.3	23.3	24.5	23.7	24.9	25.3
	8H	23.4	24.6	23.8	25.0	25.4	23.4	24.6	23.8	25.0	25.4
	12H	23.5	24.6	23.9	25.0	25.4	23.5	24.6	23.9	25.0	25.4

UGR Viewed Endwise

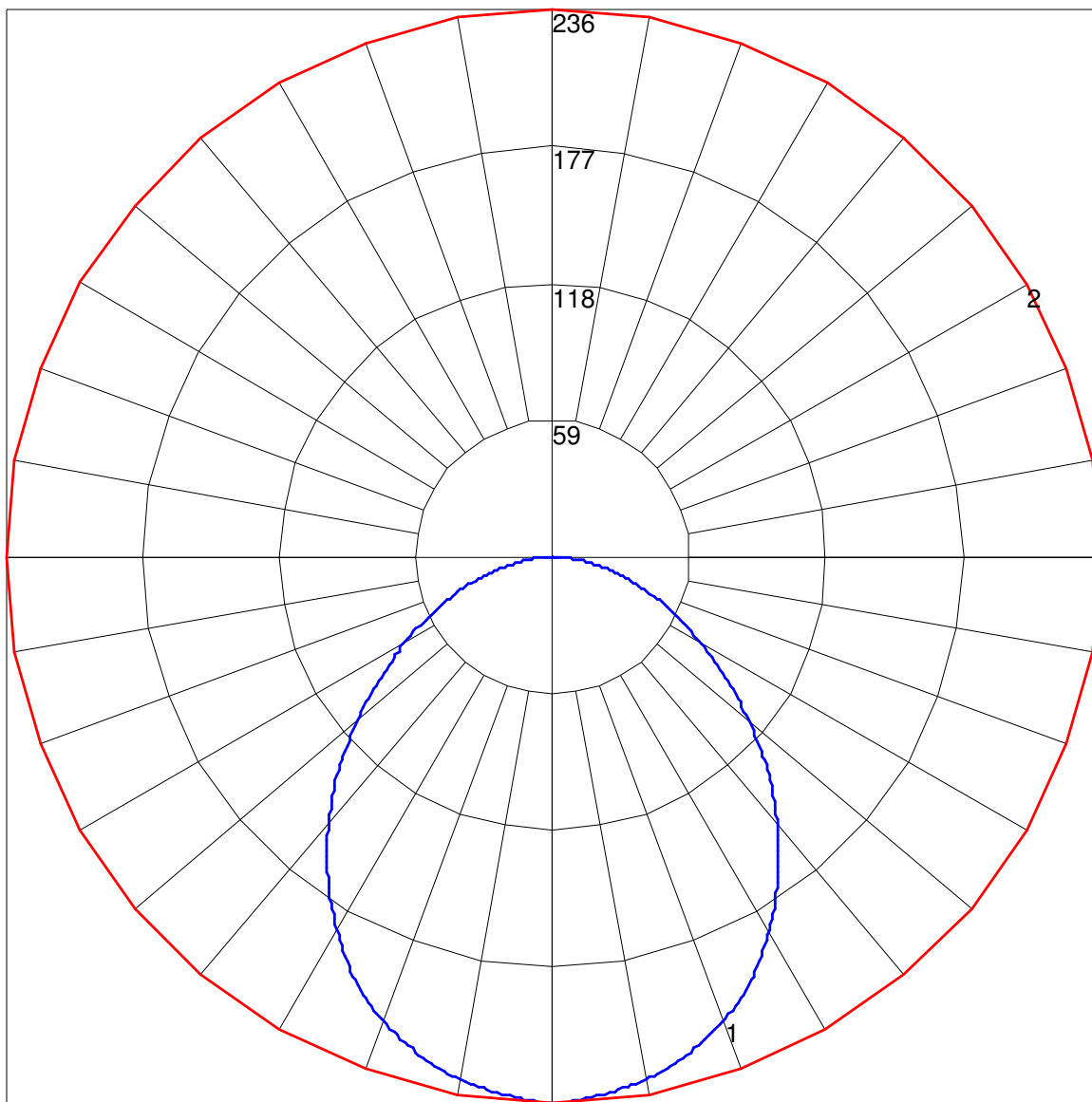
4H	2H	21.3	22.6	21.7	23.0	23.3	21.3	22.6	21.7	23.0	23.3
	3H	23.1	24.2	23.5	24.6	25.0	23.1	24.2	23.5	24.6	25.0
	4H	23.8	24.8	24.2	25.2	25.6	23.8	24.8	24.2	25.2	25.6
	6H	24.3	25.2	24.8	25.6	26.1	24.3	25.2	24.8	25.6	26.1
	8H	24.5	25.3	24.9	25.7	26.2	24.5	25.3	24.9	25.7	26.2
	12H	24.5	25.3	25.0	25.7	26.2	24.5	25.3	25.0	25.7	26.2

8H	4H	24.0	24.8	24.5	25.3	25.8	24.0	24.8	24.5	25.3	25.8
	6H	24.7	25.3	25.1	25.8	26.3	24.7	25.3	25.1	25.8	26.3
	8H	24.9	25.5	25.4	26.0	26.5	24.9	25.5	25.4	26.0	26.5
	12H	25.0	25.5	25.5	26.0	26.6	25.0	25.5	25.5	26.0	26.6

12H	4H	24.1	24.8	24.5	25.3	25.7	24.1	24.8	24.5	25.3	25.7
	6H	24.7	25.3	25.2	25.8	26.3	24.7	25.3	25.2	25.8	26.3
	8H	25.0	25.5	25.5	26.0	26.5	25.0	25.5	25.5	26.0	26.5

Maximum UGR = 26.6

POLAR GRAPH



Maximum Candela = 236.268 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.)