



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-930-DIM-UNV-RN-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM 12316380.15
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 11-28-2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L10-930-DIM-UNV-RN-OF-WH
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear plas
 [MORE] tic optic, clear glass patterned lens enclosure
 [LAMP] One white LED
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	697
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	77
Total Luminaire Watts	9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.44
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.46
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 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	3487	3487	3487
55	2320	2320	2320
65	1597	1597	1597
75	1037	1037	1037
85	836	836	836

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CANDELA TABULATION

	<u>0</u>
0.0	2613.418
0.5	2610.267
1.0	2601.995
1.5	2587.421
2.0	2567.727
2.5	2542.912
3.0	2513.371
3.5	2479.497
4.0	2441.290
4.5	2399.145
5.0	2353.454
5.5	2304.219
6.0	2251.439
6.5	2194.719
7.0	2134.849
7.5	2072.615
8.0	2008.019
8.5	1940.664
9.0	1872.129
9.5	1801.624
10.0	1730.724
10.5	1658.644
11.0	1586.169
11.5	1513.695
12.0	1441.614
12.5	1370.715
13.0	1300.210
13.5	1231.280
14.0	1163.532
14.5	1097.754
15.0	1034.338
15.5	973.286
16.0	913.810
16.5	857.485
17.0	803.523
17.5	751.924
18.0	703.082
18.5	656.604
19.0	612.883
19.5	571.919
20.0	533.318
20.5	496.687
21.0	462.419
21.5	430.909
22.0	400.580
22.5	372.141
23.0	345.042
23.5	319.952
24.0	296.555
24.5	274.655
25.0	254.212
25.5	235.227
26.0	217.739
26.5	201.550

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CANDELA TABULATION - (Cont.)

27.0	186.622
27.5	172.876
28.0	160.232
28.5	148.730
29.0	138.135
29.5	128.406
30.0	119.465
30.5	111.193
31.0	103.670
31.5	96.738
32.0	90.318
32.5	84.409
33.0	79.013
33.5	74.050
34.0	69.442
34.5	65.227
35.0	61.406
35.5	57.861
36.0	54.632
36.5	51.678
37.0	48.960
37.5	46.478
38.0	44.194
38.5	42.106
39.0	40.216
39.5	38.443
40.0	36.789
40.5	35.253
41.0	33.835
41.5	32.495
42.0	31.274
42.5	30.132
43.0	29.029
43.5	28.005
44.0	27.060
44.5	26.154
45.0	25.327
45.5	24.500
46.0	23.751
46.5	23.003
47.0	22.294
47.5	21.585
48.0	20.915
48.5	20.285
49.0	19.655
49.5	19.064
50.0	18.473
50.5	17.922
51.0	17.370
51.5	16.858
52.0	16.346
52.5	15.874
53.0	15.401
53.5	14.928
54.0	14.495
54.5	14.101

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CANDELA TABULATION - (Cont.)

55.0	13.668
55.5	13.274
56.0	12.880
56.5	12.486
57.0	12.132
57.5	11.777
58.0	11.383
58.5	11.029
59.0	10.714
59.5	10.359
60.0	10.005
60.5	9.690
61.0	9.374
61.5	9.059
62.0	8.744
62.5	8.429
63.0	8.114
63.5	7.799
64.0	7.523
64.5	7.247
65.0	6.932
65.5	6.657
66.0	6.381
66.5	6.105
67.0	5.869
67.5	5.593
68.0	5.357
68.5	5.081
69.0	4.845
69.5	4.608
70.0	4.372
70.5	4.175
71.0	3.978
71.5	3.781
72.0	3.624
72.5	3.427
73.0	3.269
73.5	3.151
74.0	2.994
74.5	2.875
75.0	2.757
75.5	2.639
76.0	2.521
76.5	2.403
77.0	2.285
77.5	2.166
78.0	2.088
78.5	1.969
79.0	1.851
79.5	1.772
80.0	1.654
80.5	1.536
81.0	1.457
81.5	1.339
82.0	1.260
82.5	1.182

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CANDELA TABULATION - (Cont.)

83.0	1.063
83.5	0.985
84.0	0.906
84.5	0.827
85.0	0.748
85.5	0.670
86.0	0.551
86.5	0.512
87.0	0.433
87.5	0.354
88.0	0.276
88.5	0.197
89.0	0.158
89.5	0.118
90.0	0.079
90.5	0.079
91.0	0.039
91.5	0.000
92.0	0.039
92.5	0.039
93.0	0.039
93.5	0.039
94.0	0.000
94.5	0.039
95.0	0.039
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	0.039
103.0	0.000
103.5	0.039
104.0	0.039
104.5	0.039
105.0	0.039
105.5	0.039
106.0	0.039
106.5	0.039
107.0	0.039
107.5	0.000
108.0	0.039
108.5	0.039
109.0	0.039
109.5	0.039
110.0	0.039
110.5	0.039

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CANDELA TABULATION - (Cont.)

111.0	0.039
111.5	0.039
112.0	0.039
112.5	0.039
113.0	0.039
113.5	0.039
114.0	0.039
114.5	0.039
115.0	0.039
115.5	0.039
116.0	0.039
116.5	0.039
117.0	0.039
117.5	0.039
118.0	0.039
118.5	0.039
119.0	0.039
119.5	0.039
120.0	0.039
120.5	0.039
121.0	0.039
121.5	0.039
122.0	0.039
122.5	0.039
123.0	0.039
123.5	0.039
124.0	0.039
124.5	0.039
125.0	0.039
125.5	0.039
126.0	0.039
126.5	0.039
127.0	0.039
127.5	0.039
128.0	0.039
128.5	0.039
129.0	0.039
129.5	0.039
130.0	0.039
130.5	0.039
131.0	0.079
131.5	0.079
132.0	0.079
132.5	0.079
133.0	0.079
133.5	0.079
134.0	0.079
134.5	0.079
135.0	0.118
135.5	0.118
136.0	0.118
136.5	0.118
137.0	0.118
137.5	0.158
138.0	0.158
138.5	0.158

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CANDELA TABULATION - (Cont.)

139.0	0.158
139.5	0.197
140.0	0.197
140.5	0.197
141.0	0.236
141.5	0.236
142.0	0.236
142.5	0.276
143.0	0.276
143.5	0.276
144.0	0.315
144.5	0.315
145.0	0.354
145.5	0.354
146.0	0.394
146.5	0.394
147.0	0.433
147.5	0.433
148.0	0.473
148.5	0.473
149.0	0.512
149.5	0.512
150.0	0.551
150.5	0.551
151.0	0.591
151.5	0.591
152.0	0.630
152.5	0.630
153.0	0.670
153.5	0.670
154.0	0.709
154.5	0.709
155.0	0.748
155.5	0.748
156.0	0.788
156.5	0.788
157.0	0.788
157.5	0.827
158.0	0.827
158.5	0.867
159.0	0.867
159.5	0.867
160.0	0.906
160.5	0.906
161.0	0.906
161.5	0.906
162.0	0.945
162.5	0.945
163.0	0.945
163.5	0.945
164.0	0.945
164.5	0.945
165.0	0.945
165.5	0.945
166.0	0.985
166.5	0.945

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CANDELA TABULATION - (Cont.)

167.0	0.985
167.5	0.985
168.0	0.985
168.5	0.945
169.0	0.945
169.5	0.945
170.0	0.945
170.5	0.945
171.0	0.945
171.5	0.945
172.0	0.945
172.5	0.945
173.0	0.945
173.5	0.945
174.0	0.945
174.5	0.945
175.0	0.945
175.5	0.945
176.0	0.945
176.5	0.945
177.0	0.945
177.5	0.906
178.0	0.906
178.5	0.906
179.0	0.906
179.5	0.906
180.0	0.906

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	488.59	N.A.	70.10
0-30	611.63	N.A.	87.80
0-40	652.62	N.A.	93.70
0-60	684.97	N.A.	98.30
0-80	694.90	N.A.	99.70
0-90	695.74	N.A.	99.80
10-90	491.38	N.A.	70.50
20-40	164.03	N.A.	23.50
20-50	184.02	N.A.	26.40
40-70	39.28	N.A.	5.60
60-80	9.93	N.A.	1.40
70-80	2.99	N.A.	0.40
80-90	0.84	N.A.	0.10
90-110	0.05	N.A.	0.00
90-120	0.09	N.A.	0.00
90-130	0.12	N.A.	0.00
90-150	0.42	N.A.	0.10
90-180	1.11	N.A.	0.20
110-180	1.06	N.A.	0.20
0-180	696.85	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	204.36
10-20	284.23
20-30	123.04
30-40	41.00
40-50	19.98
50-60	12.36
60-70	6.94
70-80	2.99
80-90	0.84
90-100	0.02
100-110	0.03
110-120	0.04
120-130	0.03
130-140	0.08
140-150	0.22
150-160	0.33
160-170	0.27
170-180	0.09

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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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	102	100	108	104	101	98	101	98	96	98	96	94	95	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91	94	92	89	92	90	88	87
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83
5	98	92	87	83	97	91	86	83	89	85	82	87	84	82	86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77
7	92	85	80	76	91	84	79	76	83	79	76	82	78	75	81	77	75	74
8	89	81	77	74	88	81	76	73	80	76	73	79	75	73	78	75	73	71
9	86	79	74	71	85	78	74	71	77	73	71	77	73	70	76	73	70	69
10	84	76	72	69	83	76	71	69	75	71	68	74	71	68	74	70	68	67

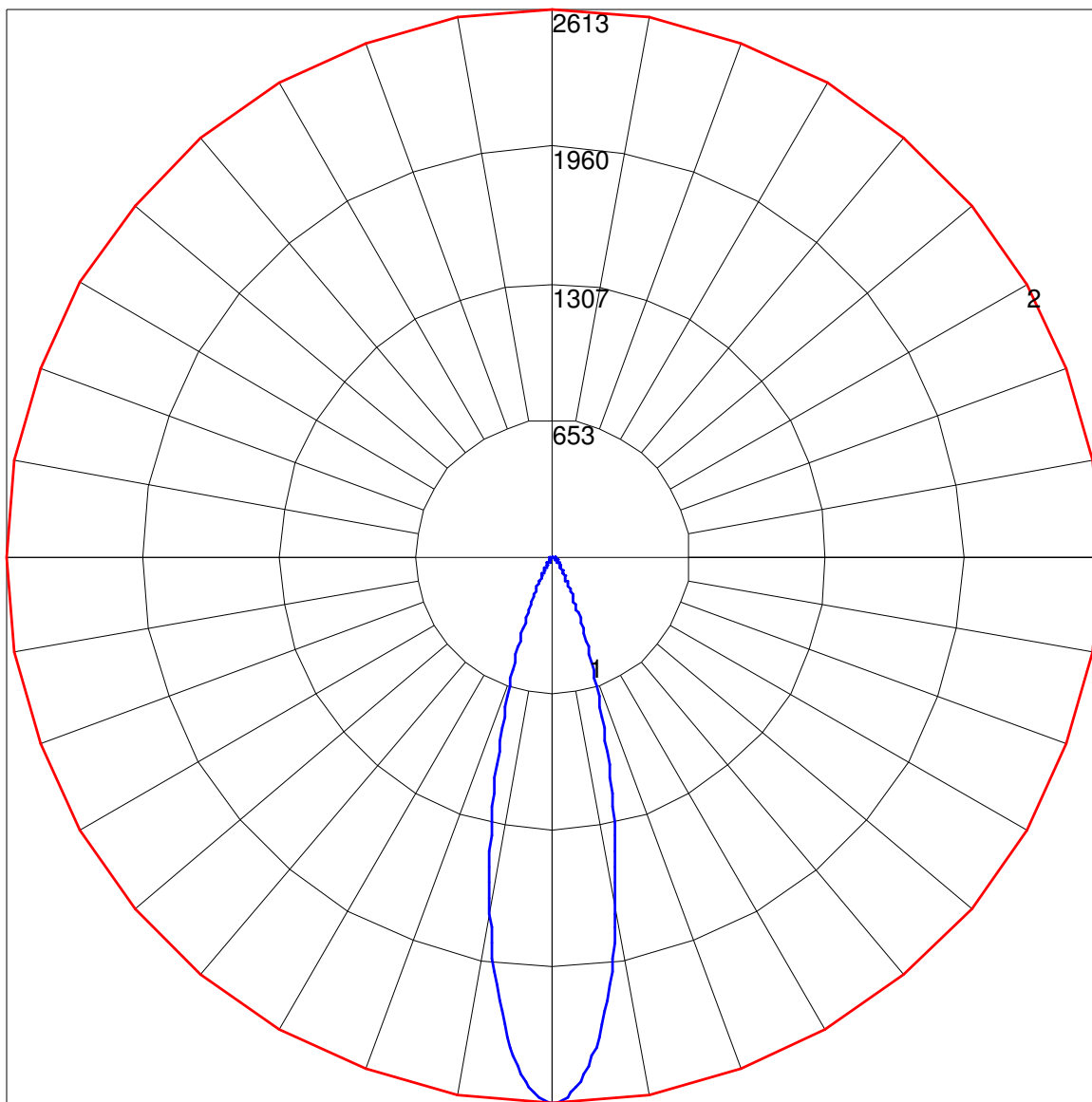
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UGR TABLE - CORRECTED

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	6.8	7.8	7.2	8.1	8.4	6.8	7.8	7.2	8.1	8.4
	3H	7.7	8.6	8.1	8.9	9.3	7.7	8.6	8.1	8.9	9.3
	4H	7.9	8.7	8.4	9.1	9.5	7.9	8.7	8.4	9.1	9.5
	6H	8.1	8.8	8.5	9.2	9.6	8.1	8.8	8.5	9.2	9.6
	8H	8.2	8.8	8.6	9.2	9.6	8.2	8.8	8.6	9.2	9.6
	12H	8.2	8.8	8.6	9.2	9.6	8.2	8.8	8.6	9.2	9.6
4H	2H	7.1	7.9	7.5	8.2	8.6	7.1	7.9	7.5	8.2	8.6
	3H	8.1	8.7	8.5	9.1	9.6	8.1	8.7	8.5	9.1	9.6
	4H	8.4	9.0	8.9	9.4	9.9	8.4	9.0	8.9	9.4	9.9
	6H	8.7	9.2	9.2	9.6	10.1	8.7	9.2	9.2	9.6	10.1
	8H	8.8	9.2	9.2	9.7	10.2	8.8	9.2	9.2	9.7	10.2
	12H	8.8	9.2	9.3	9.7	10.2	8.8	9.2	9.3	9.7	10.2
8H	4H	8.5	8.9	8.9	9.4	9.9	8.5	8.9	8.9	9.4	9.9
	6H	8.8	9.2	9.4	9.7	10.2	8.8	9.2	9.4	9.7	10.2
	8H	9.0	9.3	9.5	9.8	10.3	9.0	9.3	9.5	9.8	10.3
	12H	9.1	9.4	9.6	9.9	10.4	9.1	9.4	9.6	9.9	10.4
12H	4H	8.4	8.8	8.9	9.3	9.8	8.4	8.8	8.9	9.3	9.8
	6H	8.8	9.2	9.4	9.6	10.2	8.8	9.2	9.4	9.6	10.2
	8H	9.0	9.3	9.5	9.8	10.4	9.0	9.3	9.5	9.8	10.4

Maximum UGR = 10.4

POLAR GRAPH



Maximum Candela = 2613.418 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.)