IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-TL-L20-8TW-DIM-UNV-SW-OF-WH_3500K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN from UL #12316380.11
[TESTLAB] UL Verification Services Inc.
[ISSUEDATE] 2026-10-14
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMCAT] 4DR-TL-L20-8TW-DIM-UNV-SW-OF-WH_3500K_
[LUMINAIRE] Black formed aluminum housing, white reflector, frosted plastic
[MORE] lens enclosure
[LAMP] One 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	1189
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	66
Total Luminaire Watts	18
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	42919	42919	42919
55	36633	36633	36633
65	31247	31247	31247
75	25839	25839	25839
85	15990	15990	15990

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CANDELA TABULATION

	0
0.0	500.393
0.5	500.303
1.0	500.036
1.5	499.768
2.0	499.233
2.5	498.698
3.0	497.984
3.5	497.271
4.0	496.557
4.5	495.844
5.0	495.219
5.5	494.506
6.0	493.792
6.5	493.079
7.0	492.276
7.5	491.384
8.0	490.492
8.5	489.600
9.0	488.619
9.5	487.638
10.0	486.567
10.5	485.497
11.0	484.337
11.5	483.089
12.0	481.840
12.5	480.502
13.0	479.075
13.5	477.558
14.0	475.953
14.5	474.258
15.0	472.474
15.5	470.690
16.0	468.817
16.5	467.033
17.0	465.071
17.5	463.108
18.0	461.146
18.5	459.184
19.0	457.222
19.5	455.259
20.0	453.297
20.5	451.335
21.0	449.283
21.5	447.142
22.0	444.912
22.5	442.415
23.0	439.917
23.5	437.152
24.0	434.387
24.5	431.444
25.0	428.411
25.5	425.378
26.0	422.167
26.5	418.956

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CANDELA TABULATION - (Cont.)

27.0	415.656
27.5	412.266
28.0	408.877
28.5	405.577
29.0	402.276
29.5	398.887
30.0	395.587
30.5	392.108
31.0	388.540
31.5	385.062
32.0	381.494
32.5	377.926
33.0	374.269
33.5	370.522
34.0	366.865
34.5	363.119
35.0	359.373
35.5	355.537
36.0	351.702
36.5	347.777
37.0	343.853
37.5	339.928
38.0	335.914
38.5	331.811
39.0	327.887
39.5	323.783
40.0	319.680
40.5	315.667
41.0	311.474
41.5	307.461
42.0	303.268
42.5	299.165
43.0	294.973
43.5	290.692
44.0	286.410
44.5	282.129
45.0	277.758
45.5	273.477
46.0	269.106
46.5	264.735
47.0	260.365
47.5	255.905
48.0	251.534
48.5	247.074
49.0	242.704
49.5	238.333
50.0	233.963
50.5	229.681
51.0	225.400
51.5	221.118
52.0	216.926
52.5	212.734
53.0	208.631
53.5	204.528
54.0	200.425
54.5	196.411

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CANDELA TABULATION - (Cont.)

55.0	192.308
55.5	188.294
56.0	184.637
56.5	180.712
57.0	176.966
57.5	173.220
58.0	169.473
58.5	165.727
59.0	162.159
59.5	158.591
60.0	155.024
60.5	151.634
61.0	148.155
61.5	144.588
62.0	141.109
62.5	137.630
63.0	134.241
63.5	130.851
64.0	127.462
64.5	124.162
65.0	120.861
65.5	117.561
66.0	114.261
66.5	111.050
67.0	107.928
67.5	104.806
68.0	101.684
68.5	98.651
69.0	95.619
69.5	92.586
70.0	89.553
70.5	86.610
71.0	83.684
71.5	80.776
72.0	77.904
72.5	75.077
73.0	72.258
73.5	69.466
74.0	66.701
74.5	63.936
75.0	61.207
75.5	58.513
76.0	55.819
76.5	53.152
77.0	50.521
77.5	47.899
78.0	45.312
78.5	42.770
79.0	40.245
79.5	37.748
80.0	35.313
80.5	32.914
81.0	30.541
81.5	28.186
82.0	25.876
82.5	23.601

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CANDELA TABULATION - (Cont.)

83.0	21.354
83.5	19.133
84.0	16.965
84.5	14.833
85.0	12.755
85.5	10.766
86.0	8.911
86.5	7.287
87.0	5.807
87.5	4.478
88.0	3.336
88.5	2.435
89.0	1.695
89.5	1.097
90.0	0.678
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
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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	180.17	N.A.	15.20
0-30	376.98	N.A.	31.70
0-40	601.36	N.A.	50.60
0-60	987.81	N.A.	83.10
0-80	1172.77	N.A.	98.70
0-90	1188.54	N.A.	100.00
10-90	1141.53	N.A.	96.00
20-40	421.20	N.A.	35.40
20-50	635.10	N.A.	53.40
40-70	506.46	N.A.	42.60
60-80	184.96	N.A.	15.60
70-80	64.95	N.A.	5.50
80-90	15.77	N.A.	1.30
90-110	0.02	N.A.	0.00
90-120	0.02	N.A.	0.00
90-130	0.02	N.A.	0.00
90-150	0.02	N.A.	0.00
90-180	0.02	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1188.55	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	47.00
10-20	133.16
20-30	196.81
30-40	224.38
40-50	213.90
50-60	172.54
60-70	120.02
70-80	64.95
80-90	15.77
90-100	0.02
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	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	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	84	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	60	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	44	39	50	44	39	49	43	39	37
8	63	49	41	36	61	49	41	35	47	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

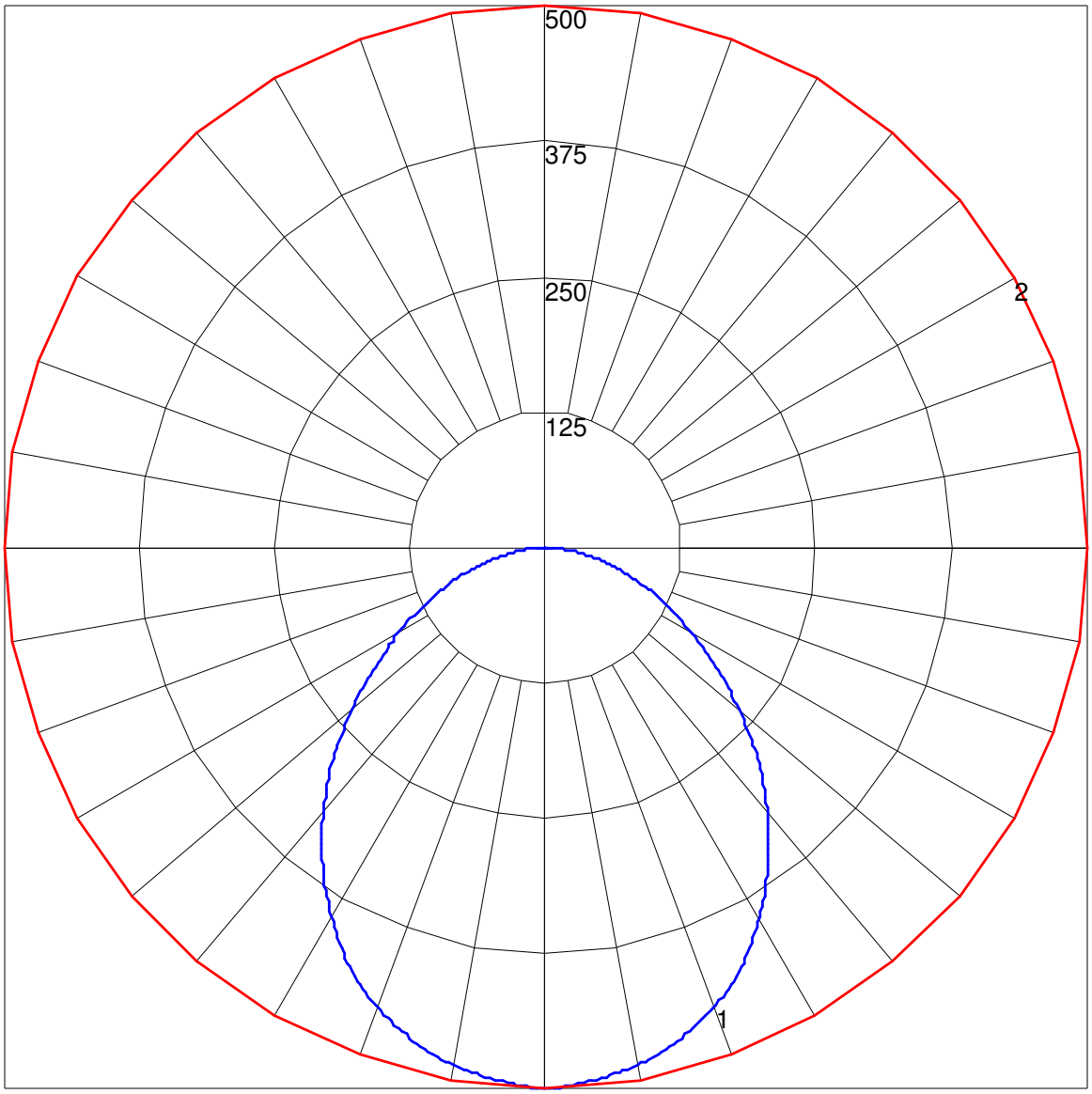
Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	23.3	24.9	23.7	25.2	25.5	23.3	24.9	23.7	25.2	25.5
	3H	24.9	26.3	25.3	26.7	27.0	24.9	26.3	25.3	26.7	27.0
	4H	25.5	26.8	25.9	27.2	27.5	25.5	26.8	25.9	27.2	27.5
	6H	25.9	27.1	26.3	27.5	27.9	25.9	27.1	26.3	27.5	27.9
	8H	26.0	27.2	26.4	27.6	28.0	26.0	27.2	26.4	27.6	28.0
	12H	26.1	27.2	26.5	27.6	28.0	26.1	27.2	26.5	27.6	28.0
4H	2H	23.9	25.2	24.3	25.6	25.9	23.9	25.2	24.3	25.6	25.9
	3H	25.7	26.8	26.1	27.2	27.6	25.7	26.8	26.1	27.2	27.6
	4H	26.4	27.4	26.8	27.8	28.2	26.4	27.4	26.8	27.8	28.2
	6H	26.9	27.8	27.4	28.2	28.7	26.9	27.8	27.4	28.2	28.7
	8H	27.0	27.9	27.5	28.3	28.8	27.0	27.9	27.5	28.3	28.8
	12H	27.1	27.9	27.6	28.3	28.8	27.1	27.9	27.6	28.3	28.8
8H	4H	26.6	27.4	27.1	27.9	28.4	26.6	27.4	27.1	27.9	28.4
	6H	27.2	27.9	27.7	28.4	28.9	27.2	27.9	27.7	28.4	28.9
	8H	27.5	28.1	28.0	28.6	29.1	27.5	28.1	28.0	28.6	29.1
	12H	27.6	28.1	28.1	28.6	29.2	27.6	28.1	28.1	28.6	29.2
12H	4H	26.7	27.4	27.1	27.9	28.3	26.7	27.4	27.1	27.9	28.3
	6H	27.3	27.9	27.8	28.4	28.9	27.3	27.9	27.8	28.4	28.9
	8H	27.5	28.1	28.1	28.6	29.1	27.5	28.1	28.1	28.6	29.1

Maximum UGR = 29.2

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POLAR GRAPH



Maximum Candela = 500.393 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.)

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