



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-OW-OF-CS-WET-CC\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20685.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 20 APRIL 2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 4" RND RECESSED LED CAST HOUSING DOWNLIGHT

[MORE] OPEN SEMI-SPEC SPUN ALUMINUM REFLECTOR (WIDE)

[LUMCAT] 4DR-TL-L20-835-DIM-UNV-OW-OF-CS-WET-CC

[LAMPCAT] V13 BXRE-35E2000

[\_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	1704
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	20
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	0.94
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.37 ft (Diameter)
Luminous Width (90-270)	0.37 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	5167	5167	5167
55	1593	1593	1593
65	196	196	196
75	0	0	0
85	0	0	0

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## CANDELA TABULATION

	<u>0</u>
0	1462.418
5	1506.048
10	1551.294
15	1583.613
20	1653.906
25	1802.572
30	1412.324
35	248.046
40	64.637
45	35.550
50	18.583
55	8.888
60	4.040
65	0.808
70	0.808
75	0.000
80	0.000
85	0.000
90	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4DR-TL-L20-835-DIM-UNV-OW-OF-CS-WET-CC\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	597.64	N.A.	35.10
0-30	1367.00	N.A.	80.20
0-40	1663.67	N.A.	97.60
0-60	1702.12	N.A.	99.90
0-80	1703.92	N.A.	100.00
0-90	1703.92	N.A.	100.00
10-90	1559.07	N.A.	91.50
20-40	1066.04	N.A.	62.60
20-50	1095.53	N.A.	64.30
40-70	40.04	N.A.	2.30
60-80	1.80	N.A.	0.10
70-80	0.21	N.A.	0.00
80-90	0.00	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	1703.92	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	144.86
10-20	452.78
20-30	769.37
30-40	296.67
40-50	29.49
50-60	8.96
60-70	1.59
70-80	0.21
80-90	0.00
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	114	111	109	106	111	109	107	105	105	103	102	101	100	98	98	97	96	94
2	108	104	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88
3	103	97	92	88	101	95	91	87	93	89	86	90	87	85	88	86	83	82
4	98	91	85	81	96	90	85	81	87	83	80	85	82	79	84	81	78	77
5	93	85	79	75	92	84	79	75	82	78	74	81	77	74	79	76	73	72
6	89	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67
7	84	75	69	65	83	75	69	65	73	68	65	72	68	64	71	67	64	63
8	80	71	65	61	79	70	65	61	69	64	61	68	64	60	67	63	60	59
9	76	67	61	57	75	66	61	57	66	60	57	65	60	57	64	60	57	55
10	73	63	58	54	72	63	57	54	62	57	54	61	57	53	61	56	53	52

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## UGR TABLE - CORRECTED

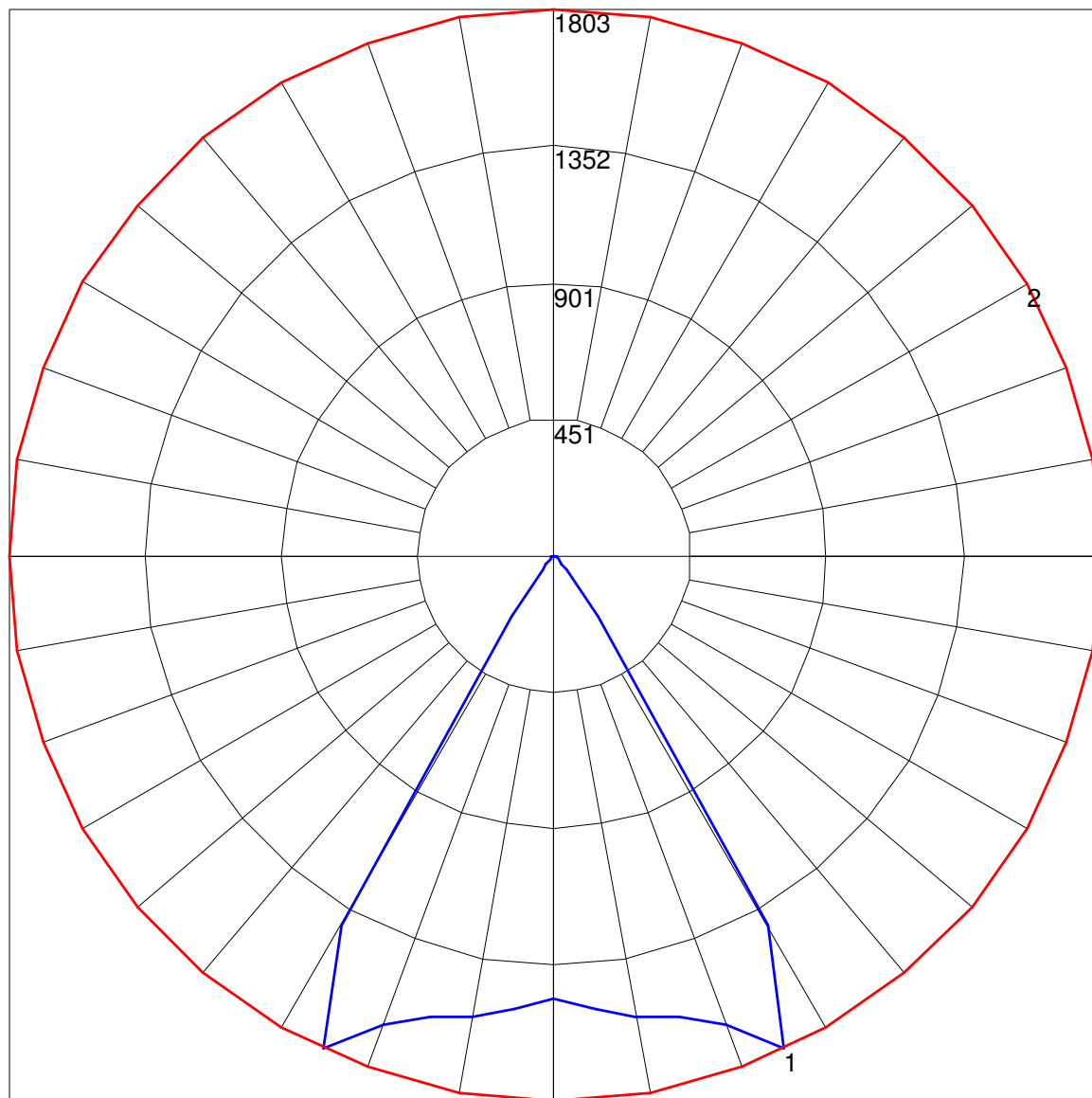
### Reflectances

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	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	3H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	4H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	6H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	8H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	12H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
4H	2H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	3H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	4H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	6H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	8H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	12H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
8H	4H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	6H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	8H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	12H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
12H	4H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	6H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	8H	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

Maximum UGR = 1.9

POLAR GRAPH



Maximum Candela = 1802.572 Located At Horizontal Angle = 0, Vertical Angle = 25

# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (25) (Through Max. Cd.)