



IES INDOOR REPORT

PHOTOMETRIC FILENAME : VTLED28-4A-40K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] RKS190429021-10
[ISSUE DATE] 2019-4-11 11:13
[MANUFAC] Lamar LED
[LUMCAT] Direct Linear Ambient Luminaires
[LUMINAIRE] VTLED-4A-44PS-8CSA 28W/4000K
[VOLTAGE] 120.0 V
[CURRENT] 0.234 A
[POWERFACTOR] 0.995
[TESTLAB] Baci
[TESTINST] GPM-3000
[TESTDIST] 14.073 m
[TESTTEMPERATURE] 25.3 °C
[TESTHUMIDITY] 48
[TESTOPERATOR] KOBE

CHARACTERISTICS

Lumens Per Lamp	3653.8 (1 lamp)
Total Lamp Lumens	3653.8
Luminaire Lumens	3654
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	28.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.93 ft
Luminous Width (90-270)	0.29 ft
Luminous Height	0.25 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8972	6025	5712
55	8131	4986	4843
65	7090	3971	4028
75	5477	2963	3206
85	2664	1955	2419

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0	1184.6	1184.6	1184.6	1184.6	1184.6	1184.6	1184.6	1184.6	1184.6	1184.6
5	1177.7	1178.2	1179.6	1179.8	1180.9	1179.9	1178.8	1178.2	1175.5	1176.3
10	1157.4	1158.8	1159.4	1162.6	1164.8	1163.7	1160.4	1159.6	1155.3	1156.0
15	1123.0	1126.0	1128.2	1133.6	1137.3	1135.4	1130.6	1127.3	1119.4	1124.7
20	1077.4	1083.0	1085.2	1092.4	1099.2	1095.9	1089.1	1082.5	1072.3	1078.0
25	1020.5	1027.5	1032.4	1042.0	1050.8	1047.2	1036.5	1026.8	1014.6	1020.6
30	952.9	961.2	971.2	984.0	995.3	990.5	976.1	963.3	946.6	954.6
35	878.3	887.9	900.6	917.4	932.2	926.4	909.0	889.8	872.6	879.9
40	799.4	810.0	824.6	846.6	865.3	857.0	834.2	811.2	791.8	800.6
45	715.1	726.9	747.0	773.8	797.1	787.7	759.8	728.0	704.6	717.1
50	627.7	642.7	667.4	701.5	727.3	715.8	681.2	644.7	617.5	631.5
55	539.2	557.4	586.4	629.2	656.8	643.3	603.6	559.1	528.4	545.4
60	449.2	467.7	506.8	555.4	585.3	569.6	526.5	472.8	439.4	458.5
65	360.9	381.3	427.5	483.6	514.0	497.1	450.0	390.2	349.9	372.0
70	271.4	296.5	352.4	410.8	442.6	426.6	375.6	308.6	260.6	285.1
75	185.9	217.3	279.8	339.8	370.9	355.1	302.7	231.6	175.1	204.9
80	107.0	142.4	212.7	273.8	303.8	286.0	235.0	160.9	96.8	132.2
85	42.5	80.5	153.2	212.5	242.5	224.4	174.1	100.0	35.0	72.2
90	9.6	40.9	108.4	163.5	191.3	175.0	127.6	59.0	7.2	35.5
95	4.9	25.0	80.6	129.5	152.9	139.2	97.1	38.8	4.1	21.1
100	3.0	14.0	59.3	102.5	122.9	110.6	73.6	25.4	3.1	12.0
105	1.9	7.2	42.6	79.6	96.5	85.5	54.2	14.9	1.9	5.8
110	1.2	3.5	28.9	59.3	73.6	66.1	38.5	7.7	0.7	2.2
115	0.8	2.0	18.5	43.1	55.9	48.3	25.8	3.2	0.0	1.1
120	0.0	1.3	10.4	30.2	39.7	33.8	15.7	2.1	0.0	0.0
125	0.0	1.1	4.7	19.1	26.5	22.4	7.9	1.9	0.0	0.0
130	0.0	0.7	2.7	10.7	15.8	12.5	3.7	1.2	0.0	0.0
135	0.0	0.7	2.7	5.2	8.6	6.4	3.3	1.4	0.0	0.0
140	0.0	1.0	3.0	4.8	4.6	4.3	3.1	1.4	0.0	0.0
145	0.9	1.2	3.1	4.4	4.6	3.8	2.7	1.5	0.0	0.8
150	1.7	2.3	3.3	4.4	4.2	3.9	2.7	2.4	0.7	1.0
155	2.0	2.6	3.6	4.2	4.2	3.9	2.9	2.5	1.3	2.0
160	2.2	2.4	3.5	4.0	4.0	3.8	2.5	2.9	1.7	2.4
165	2.8	3.2	3.8	3.9	4.0	2.8	3.1	3.1	2.1	3.0
170	3.0	3.4	3.4	3.4	3.8	3.3	3.6	3.2	2.8	3.2
175	3.3	2.9	3.3	3.8	4.0	4.1	3.9	3.7	2.8	3.4
180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Vert. Horizontal Angles

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0	1184.6	1184.6	1184.6	1184.6	1184.6	1184.6	1184.6
5	1177.1	1177.6	1178.2	1177.2	1176.6	1176.2	1177.7
10	1157.5	1159.4	1158.8	1158.3	1156.7	1155.4	1157.4
15	1125.2	1128.2	1128.5	1126.7	1124.2	1121.2	1123.0
20	1082.7	1085.8	1088.2	1086.5	1080.7	1076.1	1077.4
25	1027.6	1034.8	1039.5	1035.9	1025.6	1018.5	1020.5
30	964.2	975.8	983.4	978.8	962.7	952.8	952.9
35	893.6	911.5	921.3	913.5	895.0	880.2	878.3
40	820.0	840.9	854.2	844.5	825.5	802.7	799.4
45	740.7	768.0	786.2	775.9	748.1	718.7	715.1
50	660.3	694.0	716.3	704.9	671.1	634.1	627.7
55	581.1	620.5	645.7	632.3	592.5	549.9	539.2
60	499.0	547.9	575.0	559.0	517.7	465.7	449.2

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CANDELA TABULATION - (Cont.)

65	420.1	473.6	503.2	485.2	440.5	384.0	360.9
70	344.3	399.9	431.5	412.6	364.4	302.6	271.4
75	270.2	329.1	361.7	341.3	293.5	225.9	185.9
80	201.2	261.7	294.3	273.0	226.2	155.7	107.0
85	141.3	202.8	235.4	214.8	165.4	96.2	42.5
90	100.4	156.4	184.8	168.5	122.5	56.8	9.6
95	75.0	123.3	147.5	133.9	92.9	37.8	4.9
100	55.2	97.0	117.8	106.2	70.7	24.8	3.0
105	39.0	75.2	92.5	82.5	52.6	15.3	1.9
110	25.8	56.2	70.6	62.8	36.9	8.2	1.2
115	16.0	40.1	52.6	45.9	24.7	3.3	0.8
120	8.4	27.4	37.3	32.0	15.0	1.9	0.0
125	3.2	16.6	24.2	20.9	7.9	1.6	0.0
130	2.2	9.1	14.1	11.5	3.8	1.3	0.0
135	2.1	3.9	7.0	5.3	2.9	1.1	0.0
140	1.9	3.5	3.8	3.9	2.2	1.0	0.0
145	2.2	3.1	4.0	3.0	3.2	1.8	0.9
150	2.2	3.5	3.7	3.7	3.2	2.1	1.7
155	2.3	3.4	4.1	3.0	3.5	3.1	2.0
160	2.7	3.4	4.1	3.7	3.9	3.0	2.2
165	3.4	3.4	4.1	3.8	4.0	3.6	2.8
170	3.6	3.7	3.9	4.0	4.1	3.9	3.0
175	3.7	4.3	4.3	4.4	4.2	4.0	3.3
180	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	429.79	11.80	11.80
0-30	904.93	24.80	24.80
0-40	1468.52	40.20	40.20
0-60	2577.36	70.50	70.50
0-80	3304.3	90.40	90.40
0-90	3472.21	95.00	95.00
10-90	3360.36	92.00	92.00
20-40	1038.73	28.40	28.40
20-50	1617.72	44.30	44.30
40-70	1538.39	42.10	42.10
60-80	726.94	19.90	19.90
70-80	297.38	8.10	8.10
80-90	167.91	4.60	4.60
90-110	140.87	3.90	3.90
90-120	165.15	4.50	4.50
90-130	174.48	4.80	4.80
90-150	178.89	4.90	4.90
90-180	181.53	5.00	5.00
110-180	40.66	1.10	1.10
0-180	3653.74	100.00	100.00

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	111.85
10-20	317.94
20-30	475.14
30-40	563.59
40-50	578.98
50-60	529.85
60-70	429.56
70-80	297.38
80-90	167.91
90-100	90.62
100-110	50.25
110-120	24.29
120-130	9.33
130-140	2.80
140-150	1.61
150-160	1.39
160-170	0.95
170-180	0.31

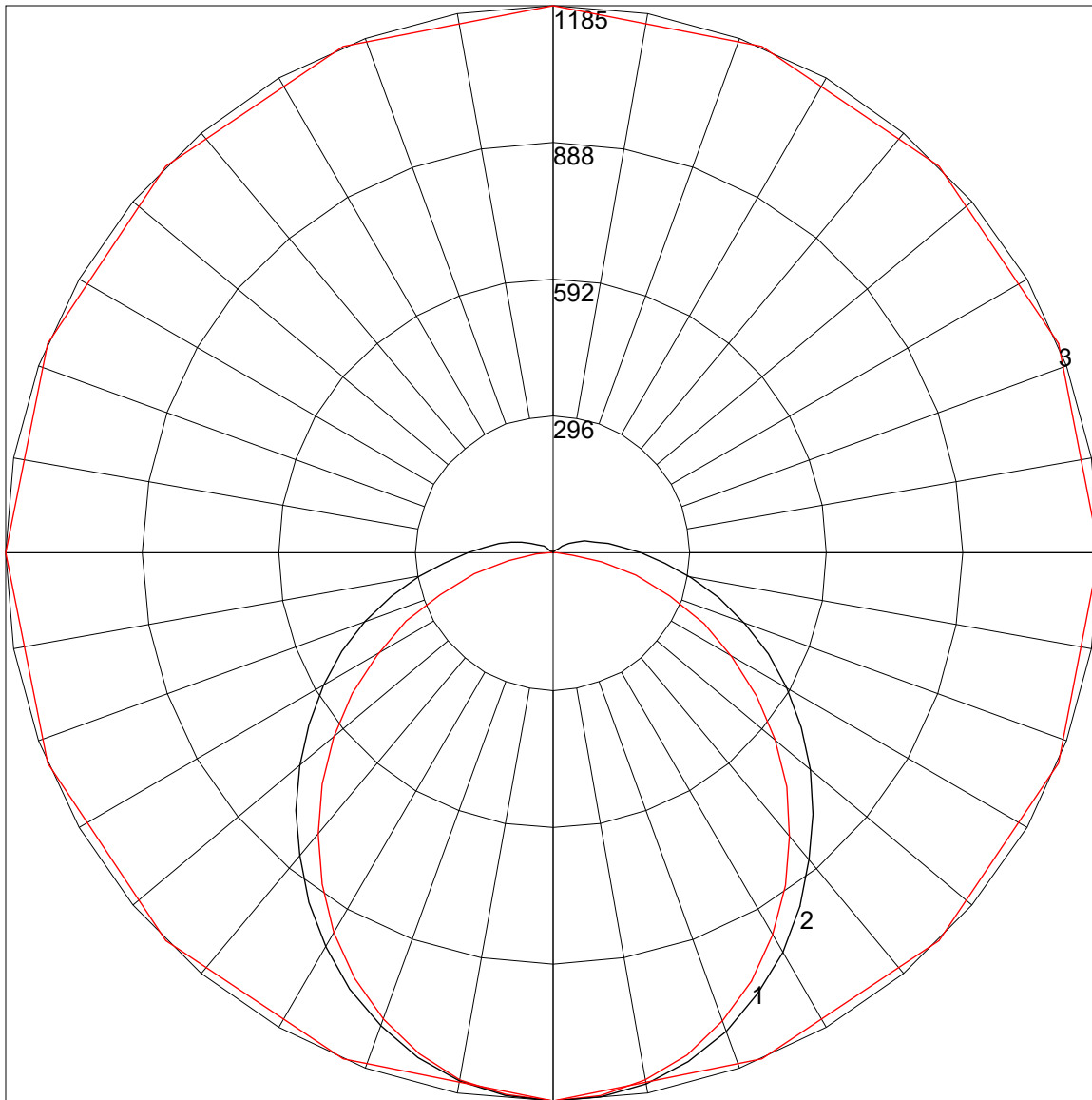
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	118	118	118	118	115	115	115	115	108	108	108	103	103	103	97	97	97	95
1	106	101	96	92	103	98	94	90	93	89	86	88	85	83	84	81	79	77
2	96	87	80	74	93	85	78	73	81	75	70	77	72	68	73	69	66	63
3	88	77	68	61	85	75	67	60	71	64	59	67	62	57	64	59	55	53
4	80	68	59	52	77	66	58	51	63	55	50	60	54	49	57	52	47	45
5	74	60	51	44	71	59	50	44	56	49	43	54	47	42	51	46	41	39
6	68	54	45	39	66	53	45	38	51	43	38	49	42	37	47	41	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	38	33	43	37	32	30
8	59	45	36	30	57	44	36	30	42	35	30	41	34	29	39	33	29	27
9	55	41	33	27	53	40	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	34	28	24	22

POLAR GRAPH



Maximum Candela = 1184.6 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (90 - 270)
3 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)