



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-19.2-1-2835-24-IP20-27K ALU-013-DFR_IESNA95.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-1995
[TEST] 01
[TESTLAB] LED-123 LAB
[TESTDATE] 12-15-2020
[ISSUEDATE] XX-XXX-1995
[NEARFIELD]
[LAMPPOSITION] 0,0
[OTHER] LED123
[MANUFAC] LED123
[LUMCAT] FLX-19.2-1-2835-24-IP20-27K
[LUMINAIRE] ALU-013-DFR
[LAMPCAT] 1
[LAMP] 2835 120LED CRI95 PCB 10MM
[BALLAST] DC24V

CHARACTERISTICS

Lumens Per Lamp	1175.8 (1 lamp)
Total Lamp Lumens	1175.8
Luminaire Lumens	1431
Total Luminaire Efficiency	122 %
Luminaire Efficacy Rating (LER)	70
Total Luminaire Watts	20.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.86
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.00 m
Luminous Width (90-270)	0.04 m
Luminous Height	0.00 m



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10115	15732	18121
55	9740	17996	21214
65	8780	20921	25964
75	7181	27371	34759
85	5964	59611	89365

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CANDELA TABULATION

	<u>0</u>	<u>30</u>	<u>60</u>	<u>90</u>	<u>120</u>	<u>150</u>	<u>180</u>	<u>210</u>	<u>240</u>	<u>270</u>
0	405.751	405.751	405.751	405.751	405.751	405.751	405.751	405.751	405.751	405.751
5	406.210	413.440	419.650	423.490	419.330	414.400	403.010	394.180	375.100	370.370
10	400.130	422.080	445.180	453.440	445.570	425.280	393.790	367.360	337.150	332.930
15	393.020	431.870	464.000	474.620	465.730	433.980	384.190	338.750	306.620	294.780
20	384.960	438.590	474.180	490.300	476.350	440.960	374.080	315.710	271.360	287.490
25	372.030	441.020	483.580	507.390	484.800	442.620	357.760	292.480	258.240	266.050
30	354.690	436.160	493.570	522.110	494.660	440.320	336.190	257.470	209.920	73.090
35	333.820	425.150	499.260	522.750	500.290	432.640	314.180	235.140	43.390	22.590
40	312.580	413.950	492.160	520.640	492.030	422.910	290.110	217.920	17.540	27.260
45	286.210	403.580	486.720	512.770	487.490	410.880	257.860	183.550	21.700	12.100
50	255.810	390.850	472.830	508.350	473.920	395.390	227.140	41.340	11.260	8.380
55	223.550	363.780	462.340	486.910	463.940	369.280	190.780	17.540	5.630	4.480
60	188.420	333.950	435.200	465.980	438.020	346.370	153.020	12.220	3.840	3.900
65	148.480	303.420	404.220	439.100	405.950	311.680	115.260	11.580	3.460	3.710
70	109.760	273.860	376.510	411.520	378.110	277.500	76.100	8.000	3.460	3.580
75	74.370	231.360	335.620	360.000	331.970	237.570	42.940	5.890	3.390	3.650
80	42.370	190.400	276.930	337.150	282.690	199.810	20.800	4.420	3.520	3.840
85	20.800	159.300	256.510	311.680	256.580	169.730	8.640	3.780	3.710	4.030
90	9.600	127.420	237.700	272.450	238.340	136.770	2.370	3.650	3.900	4.290
95	4.860	32.580	130.750	221.380	136.770	45.500	2.620	3.710	4.160	4.610
100	4.100	11.460	49.660	98.690	52.740	12.420	2.240	3.900	4.480	4.930
105	3.520	7.420	32.060	44.100	33.150	8.510	2.430	4.160	4.800	5.380
110	3.260	4.160	10.300	11.780	10.050	4.480	2.690	4.420	5.180	5.760
115	3.460	3.330	7.810	8.510	7.810	3.520	3.010	4.670	5.570	6.140
120	3.580	2.690	4.670	6.340	4.670	2.940	3.330	4.930	5.890	6.400
125	3.780	2.370	3.900	3.260	3.970	2.620	3.580	5.180	6.080	6.590
130	4.160	2.620	3.460	2.880	3.460	2.690	3.900	5.380	6.210	6.720
135	4.350	3.010	3.140	2.690	3.200	2.940	4.160	5.630	6.340	6.850
140	4.610	3.260	3.070	2.620	3.140	3.200	4.480	5.760	6.400	6.910
145	4.860	3.580	3.260	2.750	3.330	3.580	4.740	5.890	6.460	6.910
150	5.250	3.900	3.520	3.070	3.580	3.900	4.990	6.020	6.460	6.910
155	5.500	4.220	3.840	3.460	3.900	4.220	5.180	6.080	6.460	6.850
160	5.700	4.540	4.220	3.780	4.220	4.610	5.380	6.140	6.400	6.720
165	5.820	4.860	4.610	4.290	4.610	4.930	5.570	6.140	6.270	6.590
170	5.950	5.180	5.060	4.800	4.990	5.180	5.760	6.080	6.140	6.460
175	6.020	5.440	5.440	5.250	5.440	5.500	5.890	6.020	5.950	6.210
180	5.823	5.823	5.823	5.823	5.823	5.823	5.823	5.823	5.823	5.823

Vert. Angles Horizontal Angles

	<u>300</u>	<u>330</u>	<u>360</u>
0	405.751	405.751	405.751
5	374.140	391.740	406.210
10	334.980	362.110	400.130
15	302.780	334.210	393.020
20	271.550	313.280	384.960
25	254.910	284.350	372.030
30	202.750	248.320	354.690
35	38.530	244.610	333.820
40	16.770	221.820	312.580
45	22.590	128.510	286.210
50	10.370	27.460	255.810
55	5.120	16.510	223.550
60	3.780	12.670	188.420
65	3.460	11.900	148.480
70	3.460	7.230	109.760
75	3.390	5.060	74.370
80	3.520	4.290	42.370

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85	3.780	3.840	20.800
90	3.970	3.780	9.600
95	4.220	3.900	4.860
100	4.540	4.160	4.100
105	4.930	4.420	3.520
110	5.310	4.740	3.260
115	5.630	4.990	3.460
120	5.950	5.250	3.580
125	6.210	5.440	3.780
130	6.340	5.700	4.160
135	6.460	5.820	4.350
140	6.530	5.950	4.610
145	6.590	6.080	4.860
150	6.590	6.140	5.250
155	6.590	6.210	5.500
160	6.530	6.210	5.700
165	6.400	6.210	5.820
170	6.210	6.140	5.950
175	5.950	6.020	6.020
180	5.823	5.823	5.823

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Zone	Lumens	%Lamp	%Fixt
0-20	147.16	12.50	10.30
0-30	315.47	26.80	22.00
0-40	507.87	43.20	35.50
0-60	907.17	77.20	63.40
0-80	1230.52	104.70	86.00
0-90	1340.02	114.00	93.60
10-90	1301.99	110.70	91.00
20-40	360.71	30.70	25.20
20-50	565.12	48.10	39.50
40-70	578.01	49.20	40.40
60-80	323.34	27.50	22.60
70-80	144.64	12.30	10.10
80-90	109.50	9.30	7.70
90-110	70.66	6.00	4.90
90-120	76.00	6.50	5.30
90-130	80.04	6.80	5.60
90-150	86.60	7.40	6.10
90-180	91.11	7.70	6.40
110-180	20.45	1.70	1.40
0-180	1431.13	121.70	100.00

Total Luminaire Efficiency = 121.70%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	38.03
10-20	109.13
20-30	168.31
30-40	192.40
40-50	204.41
50-60	194.89
60-70	178.70
70-80	144.64
80-90	109.50
90-100	56.61
100-110	14.05
110-120	5.34
120-130	4.04
130-140	3.53
140-150	3.04
150-160	2.41
160-170	1.56
170-180	0.55

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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	143	143	143	143	139	139	139	139	131	131	131	124	124	124	117	117	117	114
1	127	120	113	107	123	116	110	105	109	104	100	103	99	95	97	94	91	88
2	114	103	93	85	110	100	91	83	94	86	80	89	82	77	84	79	74	71
3	104	89	78	69	100	87	76	68	82	73	66	77	70	64	73	67	62	58
4	95	79	67	58	91	76	66	57	72	63	56	68	60	54	65	58	52	49
5	87	70	58	50	84	68	57	49	65	55	48	61	53	47	58	51	45	42
6	80	63	51	43	77	61	50	43	58	49	42	55	47	41	53	45	40	37
7	74	57	46	38	71	56	45	38	53	44	37	50	42	36	48	41	35	32
8	69	52	41	34	67	51	41	33	48	39	33	46	38	32	44	37	31	29
9	64	48	37	30	62	47	37	30	45	36	29	43	35	29	41	34	28	26
10	60	44	34	27	58	43	34	27	41	33	27	40	32	26	38	31	26	23

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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	19.6	21.2	20.1	21.6	22.1	24.8	26.4	25.3	26.9	27.3
	3H	21.5	23.0	22.0	23.4	23.9	27.9	29.3	28.4	29.8	30.3
	4H	22.2	23.6	22.7	24.1	24.6	29.3	30.7	29.8	31.2	31.7
	6H	22.7	24.0	23.2	24.5	25.0	30.9	32.2	31.5	32.7	33.3
	8H	22.9	24.1	23.4	24.6	25.2	31.8	33.1	32.4	33.6	34.2
	12H	23.0	24.2	23.5	24.7	25.3	32.9	34.1	33.4	34.6	35.2

UGR Viewed Endwise

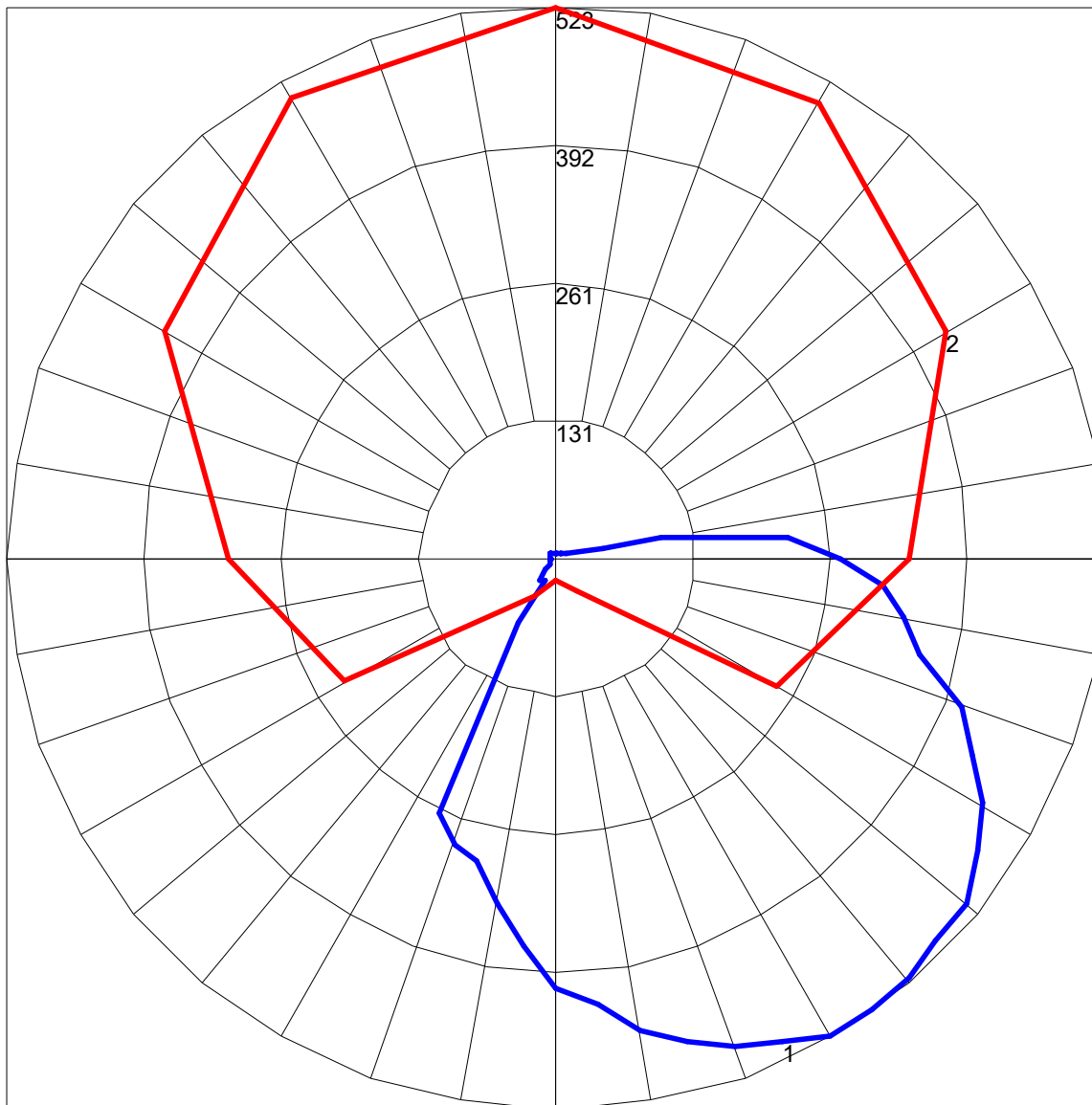
4H	2H	21.1	22.5	21.6	22.9	23.5	25.5	26.9	26.0	27.3	27.9
	3H	23.4	24.6	23.9	25.1	25.7	28.9	30.1	29.4	30.6	31.1
	4H	24.4	25.5	24.9	26.0	26.6	30.5	31.6	31.0	32.1	32.7
	6H	25.1	26.1	25.6	26.6	27.2	32.3	33.3	32.9	33.9	34.4
	8H	25.4	26.3	25.9	26.8	27.4	33.3	34.3	33.9	34.8	35.4
	12H	25.6	26.4	26.1	27.0	27.6	34.5	35.4	35.1	36.0	36.6
8H	4H	25.6	26.6	26.2	27.1	27.7	31.0	31.9	31.5	32.4	33.0
	6H	26.8	27.6	27.4	28.2	28.8	33.0	33.8	33.6	34.4	35.0
	8H	27.3	28.0	27.9	28.6	29.2	34.2	34.9	34.8	35.5	36.2
	12H	27.7	28.4	28.3	29.0	29.7	35.7	36.3	36.3	36.9	37.6
12H	4H	26.0	26.8	26.6	27.4	28.0	31.0	31.9	31.6	32.4	33.1
	6H	27.4	28.1	28.0	28.6	29.3	33.2	33.9	33.8	34.4	35.1
	8H	28.1	28.7	28.7	29.3	30.0	34.5	35.1	35.1	35.7	36.4

Maximum UGR = 37.6

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POLAR GRAPH



Maximum Candela = 522.75 Located At Horizontal Angle = 90, Vertical Angle = 35

1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (35) (Through Max. Cd.)