



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-19.2-1-3528-24-IP20-27K LL-0725 ALU-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-19.2-1-3528-24-IP20-27K
[LUMINAIRE] LL-0725 ALU LL-0725 DFR
[LAMPCAT] 1
[LAMP] 3528 240LED CRI90 PCB 10MM
[BALLAST] DC24V

CHARACTERISTICS

Lumens Per Lamp	1016.4 (1 lamp)
Total Lamp Lumens	1016.4
Luminaire Lumens	1016
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	55
Total Luminaire Watts	18.6
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	2.10
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.00 m
Luminous Width (90-270)	0.02 m
Luminous Height	0.00 m



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	11182	20761	26232
55	10317	23793	32077
65	9628	28886	41378
75	9516	38819	57010
85	13287	89199	147243

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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	244.943	244.943	244.943	244.943	244.943	244.943	244.943	244.943	244.943	244.943
5	251.330	258.370	262.530	265.280	260.990	255.550	247.100	231.870	219.650	216.960
10	248.900	267.710	281.150	287.360	279.550	263.740	239.940	214.340	195.390	190.660
15	244.290	274.620	297.220	306.690	295.100	268.100	230.400	195.390	170.240	163.900
20	236.030	278.400	311.170	324.480	306.300	270.020	218.620	175.810	145.790	139.260
25	224.380	278.530	322.690	339.460	315.970	268.670	203.970	154.820	121.790	114.180
30	210.940	275.460	331.070	351.490	323.010	266.240	187.200	133.760	99.580	91.840
35	195.330	269.180	336.450	361.730	329.090	259.780	169.280	113.860	80.830	72.770
40	176.900	260.480	339.070	367.490	329.220	250.110	149.700	94.270	62.910	56.580
45	158.210	248.830	338.620	371.140	327.940	238.080	129.790	76.610	48.510	43.780
50	138.560	234.180	335.100	371.390	325.570	223.230	110.460	60.420	37.060	33.410
55	118.400	217.920	328.190	368.130	316.220	207.100	91.140	46.080	27.780	25.220
60	99.710	201.150	318.400	361.860	308.290	190.140	72.770	33.980	20.480	19.140
65	81.410	183.170	305.340	349.890	293.380	171.840	56.260	23.870	15.040	14.340
70	64.450	164.030	286.530	330.180	278.590	153.090	41.150	16.000	10.620	10.750
75	49.280	145.410	256.640	295.230	247.490	135.170	27.970	10.370	7.360	7.810
80	35.330	127.170	220.350	277.570	211.010	117.440	16.900	6.590	5.310	6.080
85	23.170	108.990	202.110	256.770	190.140	99.710	7.490	4.480	4.350	4.930
90	13.180	91.650	190.720	228.860	180.670	83.070	2.050	3.460	3.650	4.220
95	3.780	58.820	132.100	201.860	116.350	50.620	1.790	3.330	3.520	4.030
100	2.500	41.340	126.020	172.800	117.120	36.220	1.470	3.390	3.710	4.290
105	2.240	24.450	99.900	134.850	92.670	20.930	1.660	3.260	3.900	4.480
110	2.370	6.460	60.160	87.170	57.280	4.540	1.790	3.200	4.030	4.610
115	2.300	1.410	29.380	41.790	26.560	1.280	1.980	3.330	4.160	4.740
120	2.370	1.410	10.240	17.340	8.830	1.410	2.180	3.460	4.220	4.860
125	2.560	1.540	2.300	4.670	2.180	1.540	2.370	3.580	4.220	4.930
130	2.750	1.790	2.180	1.340	2.180	1.730	2.560	3.650	4.290	4.930
135	2.880	1.980	2.240	1.470	2.180	1.860	2.750	3.780	4.350	4.930
140	3.010	2.180	2.300	1.660	2.240	2.110	2.880	3.840	4.350	4.930
145	3.200	2.370	2.430	1.860	2.370	2.300	3.070	3.900	4.350	4.860
150	3.460	2.560	2.560	2.050	2.560	2.500	3.260	3.900	4.290	4.740
155	3.520	2.750	2.750	2.300	2.750	2.690	3.390	3.970	4.220	4.610
160	3.650	2.940	2.940	2.560	2.940	2.880	3.520	3.970	4.160	4.480
165	3.780	3.140	3.140	2.820	3.140	3.070	3.650	3.900	4.030	4.350
170	3.840	3.260	3.330	3.070	3.330	3.260	3.710	3.900	3.900	4.160
175	3.900	3.460	3.580	3.390	3.520	3.460	3.840	3.780	3.710	3.900
180	3.732	3.732	3.732	3.732	3.732	3.732	3.732	3.732	3.732	3.732

Vert. Angles Horizontal Angles

	<u>300</u>	<u>330</u>	<u>360</u>
0	244.943	244.943	244.943
5	220.290	230.720	251.330
10	195.650	214.530	248.900
15	171.390	197.250	244.290
20	147.900	177.660	236.030
25	124.220	157.380	224.380
30	102.080	136.000	210.940
35	82.560	116.420	195.330
40	64.900	96.960	176.900
45	50.050	79.300	158.210
50	38.340	62.780	138.560
55	28.860	47.870	118.400
60	21.310	35.330	99.710
65	15.620	24.830	81.410
70	10.820	16.700	64.450
75	7.420	10.940	49.280
80	5.250	7.100	35.330

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85	4.420	4.930	23.170
90	3.710	3.970	13.180
95	3.580	3.840	3.780
100	3.780	3.710	2.500
105	3.900	3.390	2.240
110	4.100	3.330	2.370
115	4.160	3.390	2.300
120	4.220	3.520	2.370
125	4.350	3.650	2.560
130	4.420	3.780	2.750
135	4.420	3.840	2.880
140	4.480	3.900	3.010
145	4.420	3.970	3.200
150	4.350	3.970	3.460
155	4.350	3.970	3.520
160	4.160	3.970	3.650
165	4.030	3.900	3.780
170	3.900	3.840	3.840
175	3.780	3.780	3.900
180	3.732	3.732	3.732

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Zone	Lumens	%Lamp	%Fixt
0-20	89.36	8.80	8.80
0-30	190.34	18.70	18.70
0-40	314.87	31.00	31.00
0-60	587.12	57.80	57.80
0-80	820.04	80.70	80.70
0-90	903.40	88.90	88.90
10-90	880.28	86.60	86.60
20-40	225.51	22.20	22.20
20-50	361.50	35.60	35.60
40-70	399.00	39.30	39.30
60-80	232.92	22.90	22.90
70-80	106.17	10.40	10.40
80-90	83.36	8.20	8.20
90-110	90.85	8.90	8.90
90-120	102.34	10.10	10.10
90-130	105.63	10.40	10.40
90-150	110.04	10.80	10.80
90-180	112.99	11.10	11.10
110-180	22.15	2.20	2.20
0-180	1016.4	100.00	100.00

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	23.13
10-20	66.23
20-30	100.98
30-40	124.54
40-50	135.99
50-60	136.26
60-70	126.75
70-80	106.17
80-90	83.36
90-100	56.69
100-110	34.16
110-120	11.49
120-130	3.30
130-140	2.37
140-150	2.04
150-160	1.59
160-170	1.01
170-180	0.35

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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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	103	97	91	86	99	93	88	84	87	83	79	81	78	74	75	73	70	67
2	92	82	74	68	88	80	72	66	74	68	63	69	64	59	64	60	57	54
3	83	71	62	55	80	69	60	54	64	57	51	60	54	49	56	51	47	44
4	76	63	53	46	73	61	52	45	57	49	43	53	46	41	49	44	39	37
5	70	56	46	39	67	54	45	38	50	43	37	47	40	35	44	38	34	31
6	64	50	40	33	61	48	39	33	45	37	32	42	36	31	40	34	29	27
7	59	45	36	29	57	44	35	29	41	33	28	39	32	27	36	30	26	24
8	55	41	32	26	53	40	31	26	37	30	25	35	29	24	33	27	23	21
9	51	37	29	23	49	36	28	23	34	27	22	33	26	21	31	25	21	19
10	48	34	26	21	46	34	26	21	32	25	20	30	24	19	29	23	19	17

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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	19.5	21.0	20.0	21.5	22.1	26.1	27.6	26.6	28.1	28.7
	3H	21.4	22.8	21.9	23.3	23.9	29.4	30.8	30.0	31.4	32.0
	4H	22.2	23.5	22.7	24.1	24.7	31.0	32.3	31.6	32.9	33.5
	6H	22.9	24.1	23.5	24.7	25.3	32.7	34.0	33.3	34.5	35.2
	8H	23.2	24.4	23.8	25.0	25.6	33.7	34.9	34.3	35.5	36.1
	12H	23.5	24.7	24.1	25.3	25.9	34.8	35.9	35.4	36.5	37.2

UGR Viewed Endwise

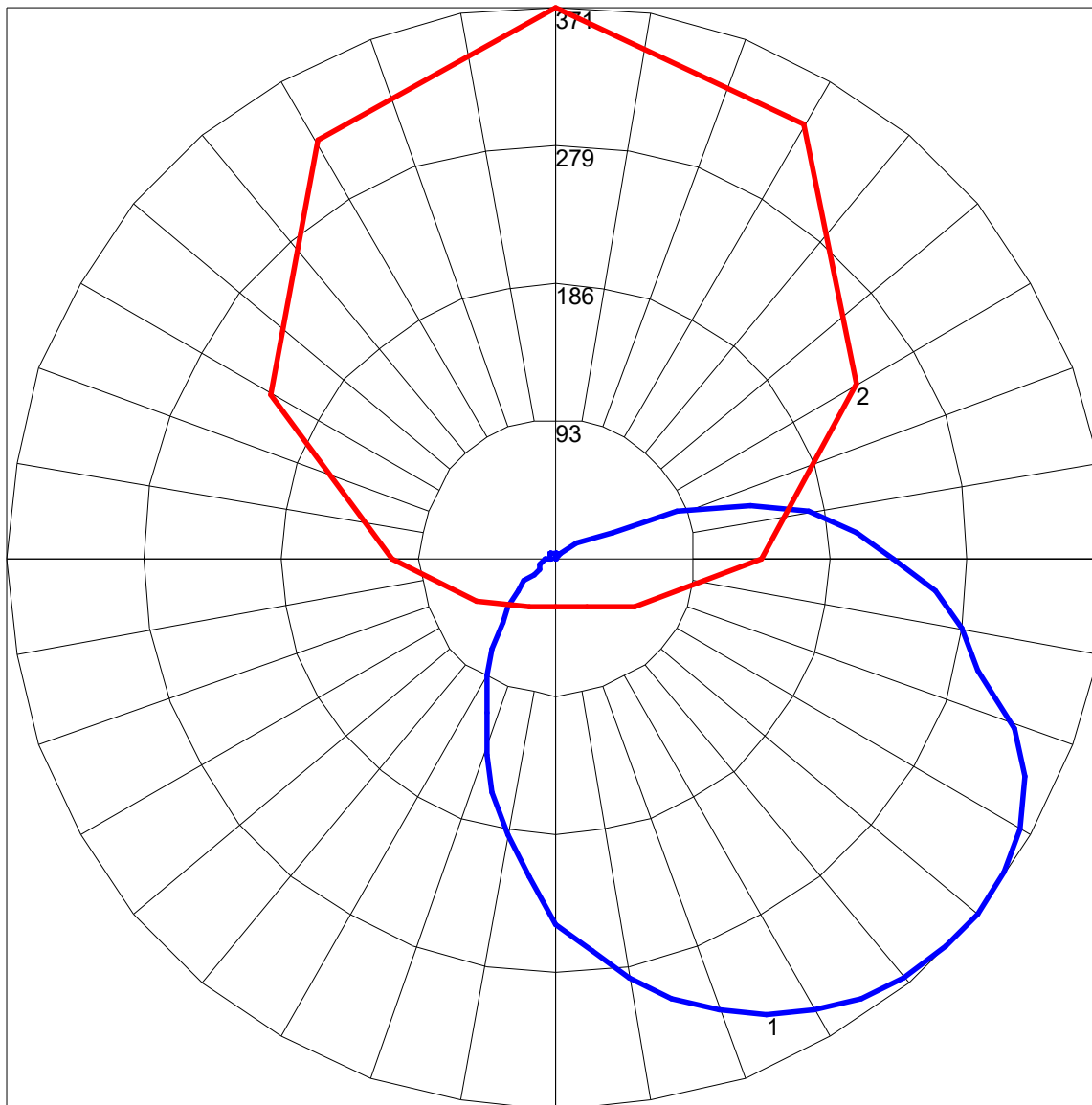
4H	2H	21.4	22.7	21.9	23.3	23.9	26.6	27.9	27.2	28.5	29.1
	3H	23.5	24.7	24.1	25.3	25.9	30.3	31.4	30.9	32.0	32.7
	4H	24.5	25.6	25.1	26.2	26.9	32.1	33.2	32.7	33.8	34.4
	6H	25.4	26.4	26.0	27.0	27.7	34.0	35.0	34.6	35.6	36.3
	8H	25.8	26.7	26.4	27.3	28.0	35.1	36.0	35.7	36.6	37.3
	12H	26.2	27.0	26.8	27.6	28.4	36.4	37.2	37.0	37.8	38.6
8H	4H	26.2	27.1	26.8	27.7	28.4	32.4	33.3	33.0	34.0	34.7
	6H	27.4	28.2	28.0	28.8	29.5	34.7	35.4	35.3	36.1	36.8
	8H	28.0	28.7	28.6	29.3	30.1	36.0	36.6	36.6	37.3	38.0
	12H	28.5	29.2	29.2	29.8	30.6	37.5	38.1	38.1	38.8	39.5
12H	4H	26.7	27.5	27.3	28.1	28.8	32.5	33.3	33.1	33.9	34.6
	6H	28.1	28.8	28.8	29.5	30.2	34.8	35.5	35.4	36.1	36.9
	8H	28.9	29.5	29.6	30.2	31.0	36.2	36.8	36.8	37.5	38.2

Maximum UGR = 39.5

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POLAR GRAPH



Maximum Candela = 371.39 Located At Horizontal Angle = 90, Vertical Angle = 50

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

2 - Horizontal Cone Through Vertical Angle (50) (Through Max. Cd.)