



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-19.2-1-3528-24-IP20-27K LL-0725 ALU-DCL_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 DCL
[LAMPCAT] 1
[LAMP] 3528 240LED CRI90 PCB 8MM
[BALLAST] DC24V

CHARACTERISTICS

Lumens Per Lamp	1161.5 (1 lamp)
Total Lamp Lumens	1161.5
Luminaire Lumens	1161
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	62
Total Luminaire Watts	18.7
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	2.10
Spacing Criterion (Diagonal)	1.38
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	14534	25391	30018
55	14148	30016	36187
65	13101	36882	46941
75	11159	50330	64338
85	10310	118691	176712

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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	280.378	280.378	280.378	280.378	280.378	280.378	280.378	280.378	280.378	280.378
5	288.700	297.280	301.250	303.740	299.780	295.420	283.780	266.110	254.980	255.360
10	287.550	306.500	324.100	330.430	321.280	302.720	278.080	250.750	233.980	233.730
15	283.520	318.660	344.130	354.300	340.740	312.960	270.340	235.780	212.420	200.380
20	277.700	325.380	362.240	374.910	357.950	317.630	260.540	218.820	160.700	124.740
25	268.480	332.290	381.630	396.670	375.420	323.580	246.980	194.940	89.730	56.260
30	256.900	332.540	389.890	408.260	384.770	323.840	230.210	162.050	40.130	31.810
35	240.640	334.020	398.340	417.090	392.000	321.660	211.710	107.780	24.640	18.050
40	224.900	329.020	398.530	420.670	392.450	318.460	190.720	61.250	13.180	9.020
45	205.630	319.300	399.170	424.700	390.590	306.940	168.000	37.060	7.490	7.040
50	184.960	310.270	396.670	425.020	387.330	296.900	144.260	21.630	6.140	6.210
55	162.370	296.000	392.960	415.300	382.210	280.960	119.490	14.530	5.500	5.630
60	137.540	280.580	376.900	404.740	366.530	263.550	93.380	10.110	5.060	5.310
65	110.780	258.690	365.060	396.930	353.660	239.040	67.330	7.420	4.800	5.120
70	83.140	234.620	345.790	374.460	338.820	215.490	43.260	5.820	4.480	4.930
75	57.790	211.390	309.890	333.180	301.950	190.270	23.940	4.740	4.220	4.670
80	34.430	186.620	270.340	317.890	255.100	164.610	11.010	3.970	4.100	4.610
85	17.980	156.740	257.220	308.160	242.560	135.620	4.030	3.580	4.160	4.540
90	9.340	140.030	258.940	287.550	241.980	116.930	2.300	3.460	4.100	4.480
95	3.330	97.730	178.110	272.320	158.460	65.540	1.920	3.390	4.100	4.540
100	2.620	32.060	171.650	233.220	157.250	24.380	1.790	3.580	4.290	4.740
105	2.560	6.080	36.610	131.070	35.140	4.740	1.980	3.710	4.610	5.060
110	2.690	2.050	10.300	11.520	9.410	1.470	2.180	3.780	4.860	5.310
115	2.620	1.470	5.890	6.210	5.380	1.340	2.370	3.970	4.990	5.500
120	2.690	1.410	3.010	3.200	2.750	1.470	2.560	4.160	5.060	5.630
125	2.940	1.540	1.920	1.220	1.920	1.600	2.750	4.290	5.120	5.630
130	3.200	1.860	1.860	1.020	1.920	1.860	2.940	4.420	5.180	5.700
135	3.330	2.050	1.980	1.220	1.980	2.050	3.140	4.480	5.180	5.700
140	3.460	2.300	2.110	1.470	2.110	2.300	3.330	4.610	5.180	5.700
145	3.650	2.500	2.300	1.730	2.300	2.500	3.520	4.610	5.180	5.630
150	3.900	2.690	2.500	1.980	2.560	2.750	3.710	4.610	5.120	5.500
155	4.030	2.940	2.750	2.300	2.820	2.940	3.840	4.670	4.990	5.380
160	4.160	3.140	2.940	2.620	3.070	3.200	3.970	4.610	4.860	5.250
165	4.290	3.390	3.260	2.940	3.330	3.460	4.160	4.540	4.740	5.060
170	4.420	3.650	3.520	3.260	3.580	3.650	4.220	4.480	4.540	4.800
175	4.480	3.900	3.840	3.710	3.900	3.900	4.350	4.350	4.290	4.480
180	4.205	4.205	4.205	4.205	4.205	4.205	4.205	4.205	4.205	4.205

Vert. Horizontal Angles

	<u>300</u>	<u>330</u>	<u>360</u>
0	280.378	280.378	280.378
5	255.230	267.140	288.700
10	235.260	252.990	287.550
15	215.740	239.300	283.520
20	166.080	223.170	277.700
25	90.430	203.260	268.480
30	43.140	172.670	256.900
35	26.620	122.370	240.640
40	14.850	71.740	224.900
45	8.000	44.220	205.630
50	6.270	26.300	184.960
55	5.570	16.960	162.370
60	5.060	11.840	137.540
65	4.740	8.260	110.780
70	4.420	6.340	83.140
75	4.030	4.990	57.790
80	3.900	4.100	34.430

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85	4.030	3.650	17.980
90	4.030	3.460	9.340
95	3.970	3.520	3.330
100	4.220	3.710	2.620
105	4.540	3.780	2.560
110	4.800	3.900	2.690
115	4.990	4.100	2.620
120	5.120	4.220	2.690
125	5.180	4.350	2.940
130	5.250	4.480	3.200
135	5.250	4.540	3.330
140	5.250	4.610	3.460
145	5.250	4.670	3.650
150	5.180	4.670	3.900
155	5.060	4.670	4.030
160	4.930	4.610	4.160
165	4.740	4.540	4.290
170	4.540	4.480	4.420
175	4.290	4.350	4.480
180	4.205	4.205	4.205

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Zone	Lumens	%Lamp	%Fixt
0-20	104.44	9.00	9.00
0-30	218.50	18.80	18.80
0-40	355.00	30.60	30.60
0-60	661.03	56.90	56.90
0-80	939.42	80.90	80.90
0-90	1044.46	89.90	89.90
10-90	1017.7	87.60	87.60
20-40	250.57	21.60	21.60
20-50	400.34	34.50	34.50
40-70	456.15	39.30	39.30
60-80	278.39	24.00	24.00
70-80	128.26	11.00	11.00
80-90	105.04	9.00	9.00
90-110	101.64	8.80	8.80
90-120	105.81	9.10	9.10
90-130	108.77	9.40	9.40
90-150	113.70	9.80	9.80
90-180	117.02	10.10	10.10
110-180	15.38	1.30	1.30
0-180	1161.48	100.00	100.00

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	26.76
10-20	77.68
20-30	114.06
30-40	136.50
40-50	149.77
50-60	156.25
60-70	150.13
70-80	128.26
80-90	105.04
90-100	75.37
100-110	26.28
110-120	4.17
120-130	2.95
130-140	2.64
140-150	2.29
150-160	1.78
160-170	1.14
170-180	0.39

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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	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	90
1	103	96	91	85	99	93	88	83	87	82	78	81	77	74	76	73	70	67
2	92	82	74	67	88	79	72	65	74	67	62	69	64	59	64	60	56	53
3	83	71	61	54	79	68	60	53	64	57	51	60	54	48	56	51	46	43
4	76	62	52	45	72	60	51	44	56	48	42	53	46	41	49	44	39	36
5	69	55	45	38	66	53	44	37	50	42	36	47	40	35	44	38	33	31
6	64	49	40	33	61	48	39	32	45	37	31	42	35	30	40	34	29	27
7	59	45	35	29	57	43	35	28	41	33	27	38	32	27	36	30	26	23
8	55	41	32	26	53	39	31	25	37	30	24	35	29	24	33	27	23	21
9	51	37	29	23	49	36	28	23	34	27	22	32	26	21	31	25	21	19
10	48	34	26	21	46	33	26	20	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	20.9	22.5	21.4	23.0	23.6	26.6	28.2	27.1	28.7	29.3
	3H	22.9	24.3	23.4	24.8	25.4	29.9	31.4	30.5	31.9	32.5
	4H	23.6	25.0	24.2	25.5	26.1	31.5	32.9	32.0	33.4	34.0
	6H	24.2	25.5	24.8	26.0	26.6	33.2	34.5	33.8	35.1	35.7
	8H	24.4	25.6	25.0	26.2	26.8	34.2	35.4	34.8	36.0	36.6
	12H	24.6	25.8	25.1	26.3	27.0	35.4	36.6	36.0	37.1	37.8

UGR Viewed Endwise

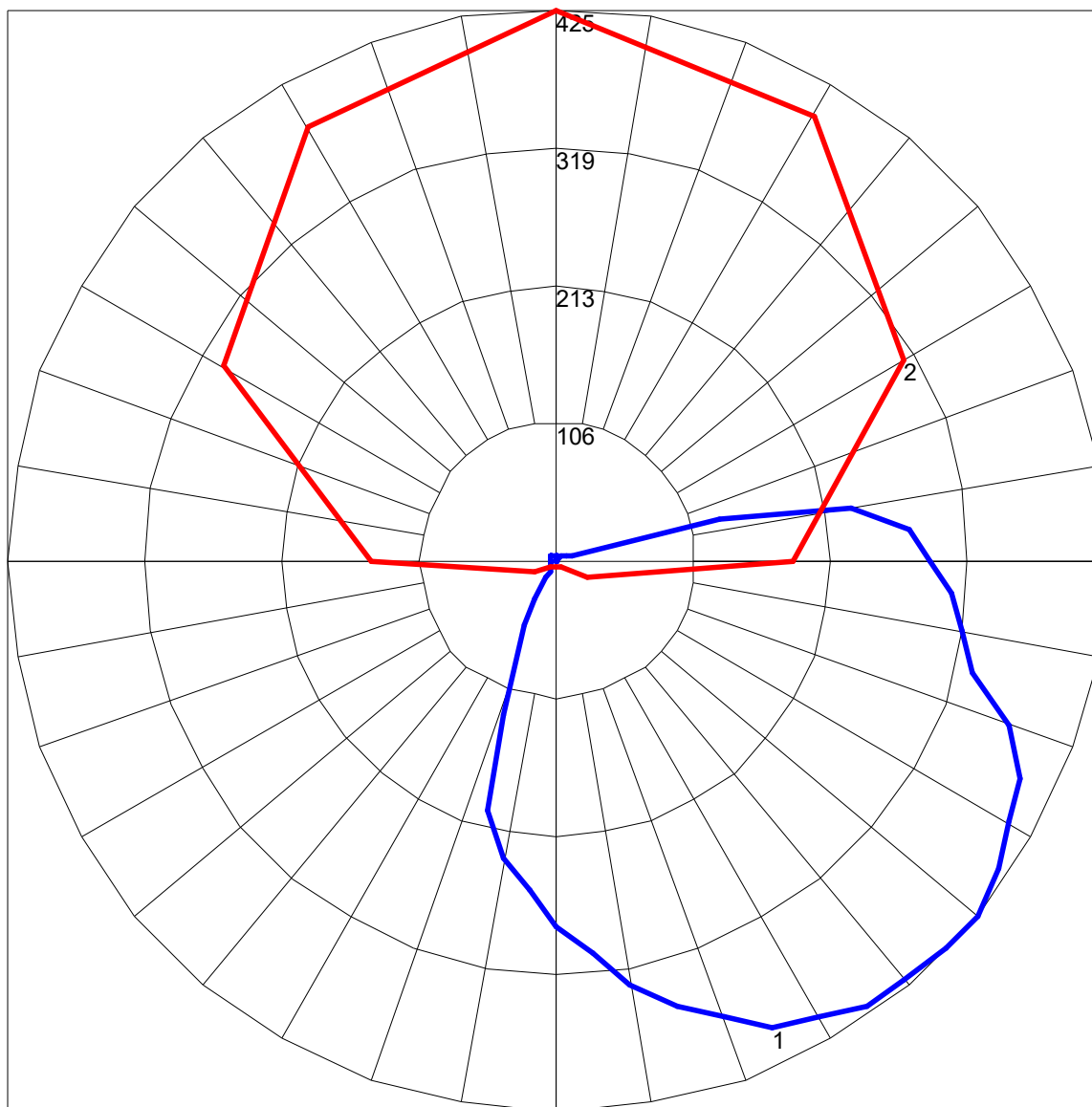
4H	2H	22.7	24.1	23.3	24.6	25.2	27.3	28.7	27.8	29.2	29.8
	3H	25.1	26.3	25.6	26.8	27.5	30.9	32.1	31.5	32.7	33.3
	4H	26.1	27.2	26.7	27.8	28.4	32.7	33.8	33.3	34.4	35.0
	6H	26.9	27.9	27.5	28.5	29.2	34.6	35.6	35.2	36.2	36.9
	8H	27.3	28.2	27.8	28.8	29.5	35.7	36.6	36.3	37.2	37.9
	12H	27.5	28.3	28.1	29.0	29.7	37.0	37.9	37.6	38.5	39.2
8H	4H	27.6	28.5	28.2	29.1	29.8	33.1	34.0	33.7	34.7	35.3
	6H	28.9	29.7	29.5	30.4	31.0	35.3	36.1	35.9	36.8	37.4
	8H	29.5	30.2	30.2	30.9	31.6	36.6	37.4	37.3	38.0	38.7
	12H	30.0	30.7	30.7	31.3	32.1	38.2	38.9	38.9	39.5	40.3
12H	4H	28.1	28.9	28.7	29.5	30.2	33.2	34.0	33.8	34.7	35.4
	6H	29.6	30.3	30.3	31.0	31.7	35.5	36.2	36.1	36.8	37.6
	8H	30.4	31.1	31.1	31.7	32.5	36.9	37.5	37.5	38.2	38.9

Maximum UGR = 40.3

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POLAR GRAPH



Maximum Candela = 425.02 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.)