



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-9.6-8MM-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-9.6-8MM-3528-24-IP20-27K
[LUMINAIRE] LL-0725 ALU LL-0725 DCL
[LAMPCAT] 1
[LAMP] 3528 120LED CRI90 PCB 8MM
[BALLAST] DC24V

CHARACTERISTICS

Lumens Per Lamp	653.7 (1 lamp)
Total Lamp Lumens	653.7
Luminaire Lumens	654
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	9.5
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.38
Spacing Criterion (90-270)	2.16
Spacing Criterion (Diagonal)	1.42
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	8233	14288	16999
55	8053	16962	20840
65	7553	21287	26922
75	6600	28932	36879
85	7231	70614	101843

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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	151.555	151.555	151.555	151.555	151.555	151.555	151.555	151.555	151.555	151.555
5	155.780	160.900	163.390	166.080	162.500	159.300	153.410	146.750	138.300	137.790
10	155.330	170.750	177.790	180.930	176.320	167.490	149.950	137.790	130.620	130.620
15	153.730	175.940	188.290	192.900	185.790	173.440	145.090	130.500	117.820	114.690
20	150.720	178.690	198.850	206.020	194.880	175.940	139.010	123.010	90.880	73.600
25	147.520	181.700	208.830	218.750	205.180	175.810	131.840	110.780	44.100	35.460
30	141.630	183.550	216.580	227.070	213.250	176.320	123.330	89.660	19.260	11.650
35	134.780	184.580	220.740	232.320	217.470	175.550	113.860	54.720	7.740	7.230
40	125.570	184.510	221.630	236.290	218.620	172.160	103.300	31.550	5.250	5.060
45	116.480	180.480	223.810	240.510	218.750	169.730	91.140	16.320	3.710	3.900
50	104.830	174.720	225.220	241.660	218.820	163.650	79.680	8.700	3.070	3.390
55	92.420	166.980	222.340	239.170	216.960	155.970	65.020	6.140	2.750	3.070
60	77.820	159.170	216.960	233.860	210.620	144.900	50.500	4.800	2.560	2.880
65	63.870	149.950	210.050	227.650	201.980	134.780	36.800	3.970	2.370	2.750
70	48.770	137.280	197.250	214.980	191.680	121.220	23.300	3.260	2.300	2.690
75	34.180	123.010	176.640	190.980	176.130	105.540	12.290	2.690	2.180	2.560
80	21.950	108.290	161.020	184.830	145.730	90.370	5.180	2.370	2.180	2.620
85	12.610	94.980	151.300	177.600	138.880	75.390	1.660	2.180	2.240	2.690
90	6.660	84.290	150.660	164.800	139.140	63.680	1.410	2.110	2.240	2.690
95	2.430	46.340	111.550	149.890	84.800	32.450	1.340	2.110	2.300	2.750
100	1.860	22.270	92.220	121.410	77.120	11.520	1.150	2.180	2.500	2.880
105	1.920	4.290	39.230	60.350	26.180	2.500	1.280	2.300	2.620	3.010
110	1.860	1.790	6.980	8.190	5.820	0.770	1.340	2.300	2.820	3.140
115	1.660	0.900	4.030	3.780	3.390	0.830	1.470	2.430	2.940	3.260
120	1.660	0.830	2.300	1.980	1.860	0.900	1.540	2.500	2.940	3.330
125	1.980	0.900	1.410	0.830	1.340	1.020	1.660	2.560	2.940	3.330
130	2.110	1.090	1.340	0.640	1.340	1.090	1.730	2.620	2.940	3.330
135	2.180	1.280	1.340	0.770	1.340	1.220	1.790	2.620	2.940	3.330
140	2.240	1.340	1.410	0.900	1.410	1.340	1.920	2.690	2.940	3.330
145	2.300	1.470	1.540	1.020	1.540	1.470	1.980	2.690	2.940	3.260
150	2.370	1.600	1.600	1.220	1.660	1.600	2.050	2.690	2.880	3.200
155	2.370	1.730	1.730	1.410	1.790	1.730	2.180	2.690	2.880	3.140
160	2.430	1.790	1.860	1.540	1.860	1.860	2.240	2.690	2.750	3.010
165	2.500	1.920	1.980	1.730	1.980	1.980	2.300	2.620	2.690	2.940
170	2.500	2.110	2.110	1.860	2.180	2.110	2.370	2.560	2.560	2.750
175	2.500	2.240	2.300	2.110	2.300	2.240	2.370	2.430	2.430	2.560
180	2.404	2.404	2.404	2.404	2.404	2.404	2.404	2.404	2.404	2.404

Vert. Angles Horizontal Angles

	<u>300</u>	<u>330</u>	<u>360</u>
0	151.555	151.555	151.555
5	138.370	146.430	155.780
10	130.300	137.790	155.330
15	118.590	129.730	153.730
20	98.560	123.330	150.720
25	54.720	114.300	147.520
30	27.330	100.610	141.630
35	9.790	78.780	134.780
40	6.020	49.340	125.570
45	4.220	28.220	116.480
50	3.260	16.130	104.830
55	2.880	9.280	92.420
60	2.620	6.270	77.820
65	2.430	4.670	63.870
70	2.240	3.780	48.770
75	2.180	2.940	34.180
80	2.110	2.430	21.950

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85	2.180	2.240	12.610
90	2.240	2.180	6.660
95	2.300	2.240	2.430
100	2.430	2.430	1.860
105	2.620	2.370	1.920
110	2.750	2.370	1.860
115	2.880	2.430	1.660
120	2.940	2.560	1.660
125	2.940	2.620	1.980
130	3.010	2.620	2.110
135	3.010	2.690	2.180
140	3.010	2.750	2.240
145	3.010	2.750	2.300
150	2.940	2.750	2.370
155	2.880	2.690	2.370
160	2.820	2.690	2.430
165	2.690	2.620	2.500
170	2.560	2.560	2.500
175	2.430	2.500	2.500
180	2.404	2.404	2.404

IES INDOOR REPORT**PHOTOMETRIC FILENAME : FLX-9.6-8MM-3528-24-IP20-27K LL-0725 ALU-DCL_IESNA95.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	57.33	8.80	8.80
0-30	120.21	18.40	18.40
0-40	195.51	29.90	29.90
0-60	367.47	56.20	56.20
0-80	526.66	80.60	80.60
0-90	587.55	89.90	89.90
10-90	572.96	87.60	87.60
20-40	138.19	21.10	21.10
20-50	221.95	34.00	34.00
40-70	257.58	39.40	39.40
60-80	159.20	24.40	24.40
70-80	73.57	11.30	11.30
80-90	60.89	9.30	9.30
90-110	56.93	8.70	8.70
90-120	59.53	9.10	9.10
90-130	61.33	9.40	9.40
90-150	64.27	9.80	9.80
90-180	66.20	10.10	10.10
110-180	9.27	1.40	1.40
0-180	653.75	100.00	100.00

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	14.59
10-20	42.74
20-30	62.88
30-40	75.31
40-50	83.77
50-60	88.18
60-70	85.63
70-80	73.57
80-90	60.89
90-100	41.92
100-110	15.01
110-120	2.60
120-130	1.80
130-140	1.58
140-150	1.36
150-160	1.05
160-170	0.66
170-180	0.23

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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	105	105	105	99	99	99	93	93	93	90
1	102	96	90	85	98	93	87	83	86	82	78	81	77	74	75	73	70	67
2	92	82	73	66	88	79	71	65	73	67	62	68	63	59	64	60	56	53
3	83	71	61	54	79	68	59	52	64	56	50	59	53	48	55	50	46	43
4	75	62	52	44	72	60	51	44	56	48	42	52	46	40	49	43	38	36
5	69	55	45	38	66	53	44	37	50	42	36	47	40	34	44	38	33	30
6	63	49	39	32	61	48	39	32	45	37	31	42	35	30	39	33	29	26
7	59	44	35	28	56	43	34	28	40	33	27	38	31	26	36	30	25	23
8	55	40	31	25	52	39	31	25	37	29	24	35	28	23	33	27	22	20
9	51	37	28	23	49	36	28	22	34	27	22	32	26	21	30	25	20	18
10	48	34	26	20	46	33	25	20	31	24	19	30	23	19	28	22	18	16

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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	19.0	20.5	19.5	21.0	21.6	24.8	26.3	25.3	26.8	27.4
	3H	21.0	22.4	21.5	23.0	23.5	28.1	29.5	28.6	30.0	30.6
	4H	21.8	23.2	22.3	23.7	24.3	29.6	31.0	30.2	31.5	32.1
	6H	22.4	23.7	23.0	24.2	24.9	31.4	32.7	31.9	33.2	33.8
	8H	22.7	23.9	23.2	24.5	25.1	32.4	33.6	32.9	34.2	34.8
	12H	22.9	24.1	23.4	24.6	25.3	33.5	34.7	34.1	35.3	35.9

UGR Viewed Endwise

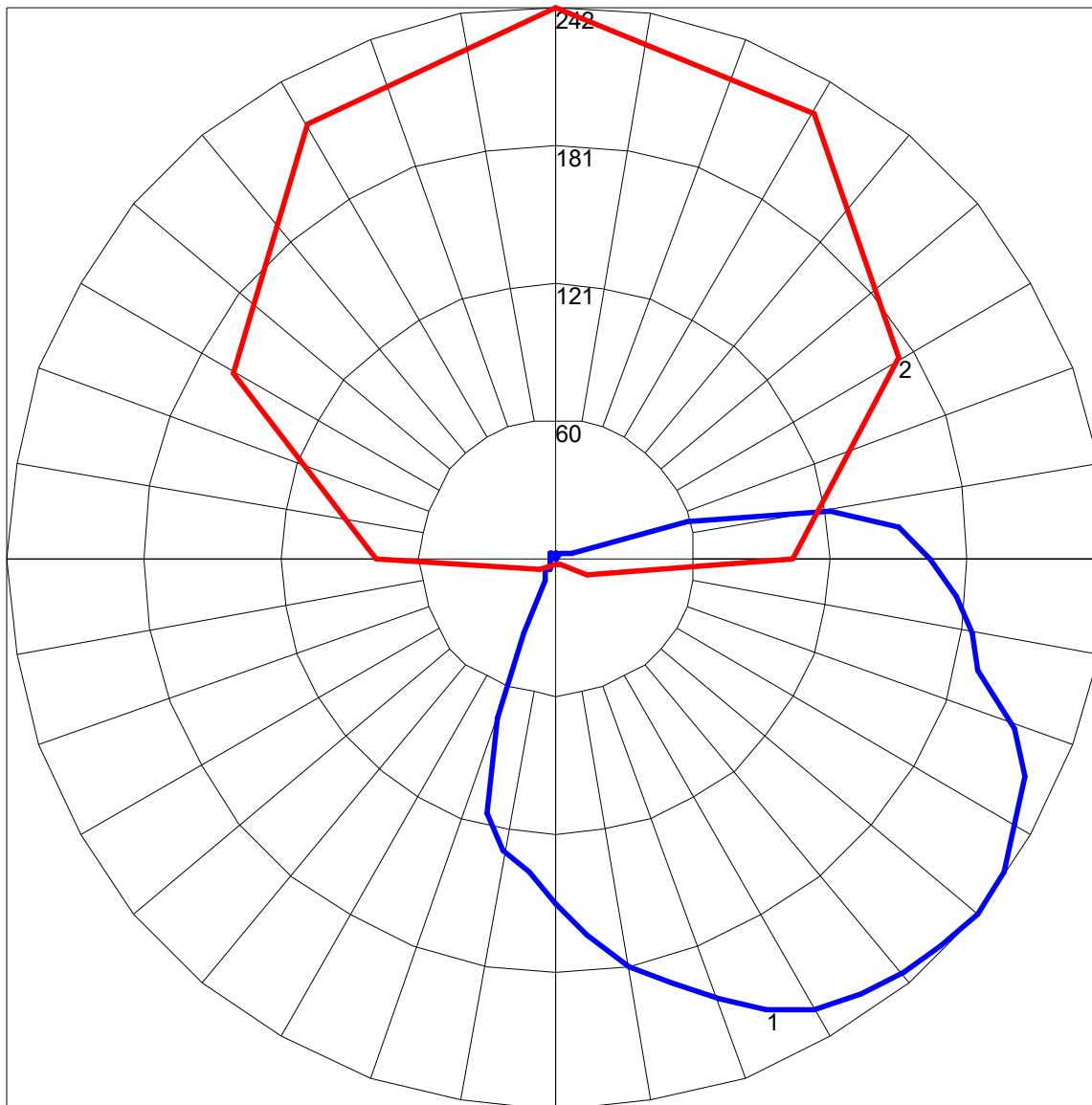
4H	2H	20.8	22.2	21.3	22.7	23.3	25.4	26.8	25.9	27.3	27.9
	3H	23.3	24.4	23.8	25.0	25.6	29.0	30.2	29.6	30.8	31.4
	4H	24.3	25.4	24.9	26.0	26.6	30.8	31.9	31.4	32.5	33.1
	6H	25.2	26.1	25.7	26.7	27.4	32.8	33.8	33.4	34.4	35.0
	8H	25.5	26.4	26.1	27.0	27.7	33.9	34.8	34.5	35.4	36.1
	12H	25.8	26.7	26.4	27.3	28.0	35.2	36.1	35.8	36.7	37.4
8H	4H	25.8	26.7	26.4	27.3	28.0	31.2	32.2	31.8	32.8	33.5
	6H	27.1	27.9	27.8	28.6	29.3	33.5	34.3	34.1	34.9	35.6
	8H	27.8	28.5	28.4	29.1	29.8	34.8	35.5	35.4	36.2	36.9
	12H	28.3	29.0	28.9	29.6	30.4	36.4	37.0	37.0	37.7	38.4
12H	4H	26.3	27.1	26.9	27.7	28.4	31.3	32.2	31.9	32.8	33.5
	6H	27.8	28.6	28.5	29.2	29.9	33.6	34.4	34.3	35.0	35.7
	8H	28.7	29.3	29.3	30.0	30.7	35.1	35.7	35.7	36.4	37.1

Maximum UGR = 38.4

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POLAR GRAPH



Maximum Candela = 241.66 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.)