



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-9.6-8MM-3528-24-IP20-27K ALU-006-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-9.6-8MM-3528-24-IP20-27K
[LUMINAIRE] ALU-006-DFR
[LAMPCAT] 1
[LAMP] 3528 120LED CRI90 PCB 8MM
[BALLAST] DC24V

CHARACTERISTICS

Lumens Per Lamp	642.5 (1 lamp)
Total Lamp Lumens	642.5
Luminaire Lumens	643
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	68
Total Luminaire Watts	9.5
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.90
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	4245	6879	8283
55	3927	7718	9750
65	3645	9112	12170
75	3506	11848	16190
85	4403	25198	39386

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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	170.919	170.919	170.919	170.919	170.919	170.919	170.919	170.919	170.919	170.919
5	174.140	177.920	179.650	181.440	179.140	177.020	172.420	164.290	156.540	155.520
10	172.420	182.270	188.800	192.000	188.100	181.250	168.960	154.690	141.760	139.200
15	168.900	184.640	196.350	201.150	195.390	183.870	164.800	144.130	125.120	120.900
20	163.390	185.220	202.620	209.340	201.540	185.660	157.700	131.650	107.520	101.820
25	157.440	184.190	207.420	216.130	206.530	184.260	148.540	117.060	89.280	81.980
30	148.740	182.530	210.430	220.990	210.240	180.930	137.730	101.630	71.360	63.490
35	138.180	177.860	211.460	223.870	211.520	175.680	126.530	86.400	55.300	47.870
40	126.140	171.140	210.300	224.450	210.300	168.450	113.410	71.740	41.600	35.390
45	114.110	162.750	207.100	222.660	206.780	159.810	98.820	58.110	31.040	26.430
50	100.220	152.450	202.050	218.690	201.020	150.530	85.180	45.380	23.300	19.900
55	85.630	141.120	195.460	212.610	193.340	138.180	70.080	34.500	17.410	15.300
60	72.510	129.730	187.070	205.060	184.190	124.990	56.640	25.660	13.120	11.900
65	58.560	116.030	176.770	195.520	173.380	110.910	43.200	18.300	9.980	9.340
70	45.950	101.950	163.710	180.800	161.220	97.730	31.360	12.610	7.230	7.300
75	34.500	88.190	144.960	159.300	143.230	83.520	20.160	8.380	5.180	5.500
80	23.740	75.140	119.360	145.280	115.780	69.250	11.330	5.380	3.780	4.420
85	14.590	61.570	105.410	130.500	101.570	56.320	4.610	3.520	3.140	3.650
90	7.940	49.220	95.490	112.060	92.160	44.610	3.710	2.690	2.560	3.140
95	2.820	32.900	59.780	92.030	58.110	29.700	2.500	2.370	2.240	2.750
100	2.300	26.370	73.020	85.820	62.210	19.580	1.410	2.370	2.180	2.620
105	1.790	17.090	56.060	88.260	49.340	13.890	1.150	2.370	2.300	2.690
110	1.730	11.520	34.300	41.340	32.640	8.260	1.280	2.370	2.430	2.820
115	1.730	6.270	24.900	29.250	23.170	3.580	1.340	2.370	2.500	2.880
120	1.790	2.620	17.090	20.160	15.300	1.340	1.470	2.370	2.560	2.940
125	1.920	1.220	10.690	12.990	9.280	1.150	1.600	2.370	2.620	3.010
130	1.980	1.280	5.820	7.740	4.860	1.280	1.730	2.500	2.690	3.070
135	2.050	1.410	2.880	3.900	2.370	1.410	1.790	2.500	2.750	3.140
140	2.180	1.540	1.860	1.730	1.790	1.540	1.920	2.560	2.750	3.140
145	2.240	1.600	1.860	1.340	1.860	1.660	2.050	2.620	2.820	3.140
150	2.300	1.790	1.980	1.470	1.920	1.790	2.110	2.620	2.820	3.070
155	2.370	1.860	2.050	1.660	2.050	1.920	2.240	2.690	2.820	3.070
160	2.430	1.980	2.180	1.790	2.180	2.050	2.300	2.690	2.750	3.010
165	2.500	2.110	2.300	1.980	2.300	2.180	2.370	2.690	2.690	2.940
170	2.560	2.240	2.430	2.180	2.430	2.300	2.500	2.620	2.620	2.820
175	2.560	2.370	2.560	2.370	2.560	2.430	2.560	2.620	2.560	2.690
180	2.560	2.560	2.560	2.560	2.560	2.560	2.560	2.560	2.560	2.560

Vert. Horizontal Angles

	<u>300</u>	<u>330</u>	<u>360</u>
0	170.919	170.919	170.919
5	156.290	163.780	174.140
10	141.820	154.370	172.420
15	125.440	143.100	168.900
20	108.100	130.750	163.390
25	89.860	117.630	157.440
30	71.870	102.660	148.740
35	56.000	87.810	138.180
40	42.430	72.900	126.140
45	31.740	59.710	114.110
50	23.940	47.170	100.220
55	17.980	36.100	85.630
60	13.570	27.010	72.510
65	10.300	19.260	58.560
70	7.360	13.180	45.950
75	5.250	8.700	34.500
80	3.710	5.500	23.740

IES INDOOR REPORT**PHOTOMETRIC FILENAME : FLX-9.6-8MM-3528-24-IP20-27K ALU-006-DFR_IESNA95.IES****CANDELA TABULATION - (Cont.)**

85	3.200	3.650	14.590
90	2.620	2.820	7.940
95	2.240	2.500	2.820
100	2.240	2.500	2.300
105	2.370	2.430	1.790
110	2.430	2.430	1.730
115	2.560	2.430	1.730
120	2.620	2.430	1.790
125	2.750	2.500	1.920
130	2.750	2.560	1.980
135	2.820	2.620	2.050
140	2.880	2.690	2.180
145	2.880	2.690	2.240
150	2.880	2.690	2.300
155	2.820	2.750	2.370
160	2.820	2.750	2.430
165	2.750	2.750	2.500
170	2.690	2.690	2.560
175	2.560	2.620	2.560
180	2.560	2.560	2.560

IES INDOOR REPORT**PHOTOMETRIC FILENAME : FLX-9.6-8MM-3528-24-IP20-27K ALU-006-DFR_IESNA95.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	62.07	9.70	9.70
0-30	131.22	20.40	20.40
0-40	214.65	33.40	33.40
0-60	390.03	60.70	60.70
0-80	530.04	82.50	82.50
0-90	575.14	89.50	89.50
10-90	559.02	87.00	87.00
20-40	152.58	23.70	23.70
20-50	241.43	37.60	37.60
40-70	253.15	39.40	39.40
60-80	140.00	21.80	21.80
70-80	62.24	9.70	9.70
80-90	45.11	7.00	7.00
90-110	49.14	7.60	7.60
90-120	57.90	9.00	9.00
90-130	61.94	9.60	9.60
90-150	65.36	10.20	10.20
90-180	67.38	10.50	10.50
110-180	18.25	2.80	2.80
0-180	642.53	100.00	100.00

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	16.13
10-20	45.94
20-30	69.15
30-40	83.43
40-50	88.85
50-60	86.54
60-70	77.76
70-80	62.24
80-90	45.11
90-100	29.14
100-110	20.00
110-120	8.76
120-130	4.04
130-140	2.01
140-150	1.41
150-160	1.09
160-170	0.70
170-180	0.24

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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	92	92	92	90
1	104	98	92	88	100	94	90	85	88	84	81	82	79	76	77	74	72	69
2	93	84	76	69	89	81	74	68	76	70	65	71	66	61	66	62	59	56
3	84	73	64	57	81	70	62	55	66	59	53	62	56	51	58	53	49	46
4	77	64	55	47	74	62	53	46	58	51	45	54	48	43	51	46	41	39
5	71	57	47	40	68	55	46	40	52	44	38	49	42	37	46	40	36	33
6	65	51	42	35	62	50	41	34	47	39	33	44	37	32	41	36	31	29
7	60	46	37	31	58	45	36	30	42	35	29	40	33	28	38	32	27	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	24	50	38	30	24	36	28	23	34	27	23	32	26	22	20
10	49	36	27	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

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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	16.2	17.7	16.7	18.2	18.7	21.8	23.3	22.3	23.8	24.4
	3H	18.1	19.4	18.6	20.0	20.6	24.9	26.3	25.5	26.8	27.4
	4H	18.9	20.2	19.4	20.7	21.3	26.4	27.7	27.0	28.3	28.9
	6H	19.5	20.8	20.1	21.3	21.9	28.0	29.2	28.6	29.8	30.4
	8H	19.8	21.0	20.4	21.6	22.2	28.9	30.1	29.4	30.6	31.3
	12H	20.1	21.2	20.7	21.8	22.4	29.9	31.0	30.4	31.6	32.2

UGR Viewed Endwise

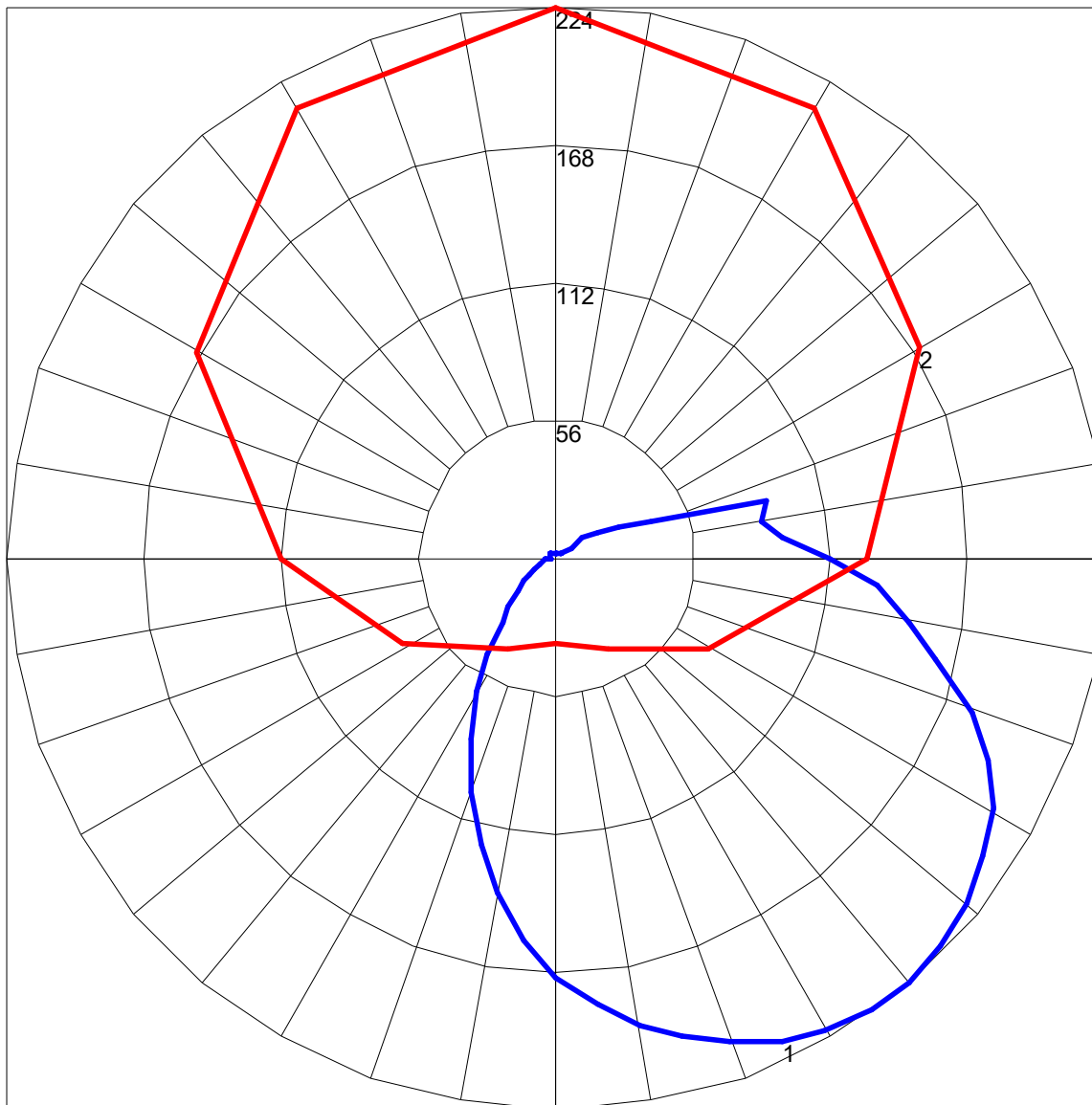
4H	2H	17.7	19.1	18.3	19.6	20.2	22.4	23.7	22.9	24.2	24.8
	3H	19.9	21.0	20.5	21.6	22.2	25.9	27.0	26.4	27.6	28.2
	4H	20.9	21.9	21.4	22.5	23.2	27.5	28.6	28.1	29.2	29.8
	6H	21.7	22.7	22.3	23.3	23.9	29.3	30.3	29.9	30.9	31.5
	8H	22.1	23.0	22.7	23.6	24.3	30.3	31.2	30.9	31.8	32.5
	12H	22.5	23.2	23.1	23.9	24.6	31.5	32.3	32.1	32.9	33.6
8H	4H	22.2	23.1	22.8	23.7	24.4	27.9	28.8	28.5	29.4	30.1
	6H	23.4	24.2	24.0	24.8	25.5	30.0	30.7	30.6	31.4	32.0
	8H	24.0	24.7	24.6	25.3	26.0	31.1	31.8	31.8	32.5	33.2
	12H	24.5	25.1	25.1	25.8	26.5	32.5	33.1	33.2	33.8	34.6
12H	4H	22.6	23.4	23.2	24.1	24.7	28.0	28.8	28.6	29.4	30.1
	6H	24.0	24.7	24.7	25.3	26.1	30.1	30.8	30.7	31.4	32.1
	8H	24.8	25.4	25.4	26.0	26.8	31.4	32.0	32.0	32.6	33.4

Maximum UGR = 34.6

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POLAR GRAPH



Maximum Candela = 224.45 Located At Horizontal Angle = 90, Vertical Angle = 40

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

2 - Horizontal Cone Through Vertical Angle (40) (Through Max. Cd.)