



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HZX-EX-Q1-20W-4000K-D120.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] HZX-EX-Q1-20W-4000K-D120
 [TESTLAB] Standard-Tech Co., Ltd Testing Center
 [TESTDATE] 2018-04-26
 [ISSUEDATE] 2018-04-26 17:51:40
 [NEARFIELD]
 [LAMPPOSITION] 0,0
 [OTHER] EVERFINE GO-R5000_V2 SYSTEM
 [MANUFAC] BELUCE CANADA INC.
 [LUMINAIRE] HZX-EX-Q1-20W-4000K-D120
 [LUMCAT] HZX-EX-Q1-20W-4000K-D120
 [LAMP] 2333 LUMENS
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_CERTIFICATION] CSA

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2333
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	143
Total Luminaire Watts	16.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.24 m (Diameter)
Luminous Width (90-270)	0.24 m (Diameter)
Luminous Height	0.00 m

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	20687	20678	20594
55	19562	19667	19297
65	13282	13488	11870
75	1507	1420	1354
85	1158	1200	1023

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0.0	922.49	922.49	922.49	922.49	922.49	922.49	922.49	922.49	922.49	922.49
2.5	922.99	923.06	923.29	923.72	923.66	922.58	922.33	922.27	921.73	922.95
5.0	922.34	923.28	923.44	923.23	922.46	920.79	920.53	920.37	920.01	920.57
7.5	919.95	920.83	920.30	919.67	919.56	917.50	917.14	916.46	915.75	916.02
10.0	914.91	916.46	914.65	913.85	915.37	912.97	911.91	910.95	908.49	909.71
12.5	908.50	909.06	906.84	905.81	908.48	906.00	904.17	902.48	900.28	900.85
15.0	898.42	899.27	896.87	895.90	899.06	896.50	894.13	892.00	890.01	889.00
17.5	885.78	886.75	884.06	882.98	887.94	884.84	882.88	879.23	876.20	875.92
20.0	871.80	871.64	869.45	868.22	874.67	871.12	868.14	864.77	861.17	860.81
22.5	854.43	854.68	852.67	851.22	859.07	855.23	852.15	848.10	843.88	842.63
25.0	834.96	835.81	833.71	831.81	840.85	837.46	833.91	830.24	825.30	823.49
27.5	814.98	815.17	813.22	811.46	820.89	817.51	814.29	810.71	804.59	803.37
30.0	793.67	793.39	792.30	791.36	799.43	796.53	793.83	788.93	782.96	781.40
32.5	770.78	770.63	769.42	769.23	776.90	773.78	771.22	765.83	759.71	757.91
35.0	746.64	746.07	745.75	745.84	752.15	748.97	746.18	740.89	734.21	732.71
37.5	721.47	721.00	720.76	720.94	725.19	722.57	719.39	713.03	707.03	705.52
40.0	694.59	693.96	693.98	693.99	696.33	693.22	690.02	684.06	677.65	676.30
42.5	666.37	664.61	665.13	665.36	665.22	661.88	659.04	652.94	646.89	645.29
45.0	634.75	634.03	634.45	634.55	631.87	629.19	626.07	619.87	614.66	612.44
47.5	601.35	600.85	601.80	601.81	596.90	594.46	590.81	585.37	580.29	577.86
50.0	566.20	566.03	567.24	566.90	560.05	557.56	554.83	548.44	543.76	541.18
52.5	528.15	528.13	529.83	529.04	521.31	518.68	515.44	509.91	505.18	501.68
55.0	486.86	487.33	489.49	488.52	480.27	477.56	473.74	468.48	464.80	460.23
57.5	443.31	444.72	447.62	445.33	436.39	432.35	426.99	419.55	414.57	411.66
60.0	394.28	397.27	400.61	394.93	379.64	370.24	358.82	349.29	344.38	342.07
62.5	326.41	330.67	332.39	322.30	302.74	288.71	273.76	265.78	262.96	260.63
65.0	243.57	248.15	247.35	236.82	217.68	204.50	192.55	184.30	179.79	175.77
67.5	158.61	162.38	162.18	152.33	134.75	127.05	118.56	111.10	103.88	99.24
70.0	83.77	85.83	85.83	79.08	67.01	62.20	56.53	50.65	45.41	41.73
72.5	32.83	32.14	30.72	29.37	25.34	22.56	20.06	18.75	17.63	17.12
75.0	16.93	16.37	15.95	15.63	15.21	14.47	13.74	13.01	12.58	12.40
77.5	12.33	12.15	11.90	11.72	11.26	10.70	10.05	9.21	9.13	9.20
80.0	8.86	8.98	8.82	8.77	8.13	7.61	7.08	6.51	6.45	6.62
82.5	6.13	6.29	6.23	6.10	5.41	5.06	4.65	4.38	4.35	4.47
85.0	4.38	4.54	4.54	4.33	3.87	3.46	3.09	2.88	2.72	3.04
87.5	1.89	2.16	2.18	2.10	1.59	1.46	1.20	0.91	0.70	0.78
90.0	0.01	0.12	0.12	0.12	0.00	0.05	0.00	0.00	0.00	0.00
92.5	0.00	0.03	0.00	0.05	0.00	0.00	0.00	0.08	0.00	0.00
95.0	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
97.5	0.00	0.00	0.00	0.03	0.14	0.11	0.14	0.06	0.00	0.00
100.0	0.00	0.00	0.00	0.00	0.21	0.21	0.16	0.16	0.00	0.05
102.5	0.00	0.00	0.00	0.03	0.21	0.29	0.21	0.19	0.14	0.14
105.0	0.00	0.00	0.00	0.05	0.32	0.42	0.37	0.32	0.16	0.11
107.5	0.00	0.08	0.16	0.13	0.40	0.53	0.37	0.40	0.29	0.19
110.0	0.05	0.16	0.21	0.26	0.58	0.68	0.37	0.47	0.37	0.21
112.5	0.19	0.21	0.26	0.37	0.63	0.79	0.55	0.61	0.50	0.53
115.0	0.31	0.26	0.63	0.63	0.79	0.84	0.68	0.63	0.68	0.53
117.5	0.42	0.32	0.82	0.79	0.90	0.92	0.87	0.63	0.77	0.56
120.0	0.63	0.63	0.84	0.79	1.05	1.05	1.10	0.84	0.84	0.79
122.5	0.84	0.87	0.87	0.95	1.08	1.10	1.08	1.11	0.92	0.95
125.0	1.00	1.16	0.95	1.05	1.21	1.26	1.10	1.21	1.05	1.16
127.5	1.29	1.24	1.05	1.16	1.29	1.24	1.24	1.29	1.05	1.24
130.0	1.42	1.21	1.16	1.21	1.31	1.31	1.26	1.42	1.05	1.37
132.5	1.42	1.37	1.40	1.21	1.40	1.31	1.40	1.50	1.05	1.37

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CANDELA TABULATION - (Cont.)

135.0	1.42	1.52	1.42	1.21	1.37	1.31	1.42	1.47	0.35	1.47
137.5	1.50	1.68	1.42	1.39	1.37	1.42	1.42	1.58	1.55	1.56
140.0	1.58	1.63	1.42	1.47	1.42	1.52	1.42	1.58	1.63	1.68
142.5	1.58	1.63	1.42	1.53	1.58	1.53	1.50	1.63	1.63	1.63
145.0	1.58	1.63	1.42	1.53	1.58	1.58	1.47	1.73	1.63	1.63
147.5	1.63	1.66	1.53	1.53	1.68	1.71	1.55	1.73	1.68	1.74
150.0	1.63	1.68	1.63	1.58	1.68	1.84	1.63	1.84	1.79	1.74
152.5	1.73	1.71	1.66	1.66	1.66	1.73	1.77	1.84	1.73	1.74
155.0	1.79	1.74	1.84	1.68	1.58	1.78	1.79	1.84	1.73	1.74
157.5	1.79	1.79	1.84	1.68	1.55	1.68	1.79	1.89	1.73	1.77
160.0	1.79	1.79	1.84	1.68	1.68	1.68	1.79	1.89	1.73	1.79
162.5	1.79	1.82	1.84	1.68	1.73	1.76	1.89	1.89	1.73	1.98
165.0	1.79	1.84	1.84	1.68	1.79	1.84	1.89	1.89	1.79	1.95
167.5	1.79	1.87	1.92	2.89	1.84	1.89	2.03	2.11	2.08	2.11
170.0	1.89	2.32	2.42	1.95	1.84	1.89	2.26	2.42	2.47	2.53
172.5	2.34	2.32	2.45	1.95	1.84	1.89	2.21	2.42	2.55	2.63
175.0	2.47	2.42	2.58	1.95	1.84	1.94	2.21	2.42	2.57	2.63
177.5	2.60	2.42	2.55	2.24	1.84	1.84	2.21	2.42	2.47	2.63
180.0	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00

Vert. Angles	Horizontal Angles						
	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	922.49	922.49	922.49	922.49	922.49	922.49	922.49
2.5	921.33	922.04	921.90	922.83	923.48	923.37	922.99
5.0	919.17	919.99	921.02	921.81	923.24	922.50	922.34
7.5	915.27	915.51	916.54	918.31	920.27	920.49	919.95
10.0	908.62	909.36	909.53	912.60	915.69	916.79	914.91
12.5	900.01	900.93	900.62	905.14	908.77	909.55	908.50
15.0	888.46	890.33	888.88	894.32	899.14	899.87	898.42
17.5	875.04	877.37	875.21	881.01	886.08	887.68	885.78
20.0	860.07	862.06	859.69	865.72	870.52	872.59	871.80
22.5	842.51	844.23	841.79	848.14	852.82	855.21	854.43
25.0	823.13	825.43	822.40	828.30	833.69	836.24	834.96
27.5	803.29	804.71	802.66	807.40	812.81	815.81	814.98
30.0	780.80	782.33	781.57	785.43	791.05	794.20	793.67
32.5	757.60	759.28	758.70	762.86	768.09	771.42	770.78
35.0	731.56	734.51	734.38	738.85	743.96	747.22	746.64
37.5	704.12	707.00	709.11	712.36	718.21	721.41	721.47
40.0	674.77	677.97	681.59	684.25	690.40	694.27	694.59
42.5	642.98	646.26	652.95	654.61	660.69	664.56	666.37
45.0	610.20	613.23	621.73	623.26	628.61	633.01	634.75
47.5	574.83	578.24	588.69	590.20	595.88	599.54	601.35
50.0	537.32	540.90	553.25	555.33	560.76	564.03	566.20
52.5	497.53	501.04	514.85	517.43	522.92	526.40	528.15
55.0	455.84	459.40	473.86	476.96	482.13	485.83	486.86
57.5	408.95	413.66	429.55	432.87	438.99	442.41	443.31
60.0	342.41	350.90	370.32	378.55	389.48	393.60	394.28
62.5	259.93	271.60	292.25	302.35	315.63	323.60	326.41
65.0	176.46	188.14	207.08	216.88	230.49	238.33	243.57
67.5	101.65	109.89	124.90	137.23	150.07	156.25	158.61
70.0	42.27	47.63	56.65	68.61	80.03	84.82	83.77
72.5	17.18	18.48	20.73	24.89	29.12	32.83	32.83
75.0	12.34	13.29	13.71	15.02	16.77	17.35	16.93
77.5	9.27	9.83	10.44	11.43	12.26	12.37	12.33
80.0	6.73	7.31	7.80	8.54	8.92	8.81	8.86

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CANDELA TABULATION - (Cont.)

82.5	4.65	4.83	5.54	5.89	6.10	5.96	6.13
85.0	3.35	3.46	4.01	4.22	4.27	4.32	4.38
87.5	1.01	1.15	1.63	1.84	1.79	1.84	1.89
90.0	0.00	0.00	0.16	0.06	0.06	0.16	0.01
92.5	0.00	0.00	0.03	0.00	0.03	0.00	0.00
95.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.5	0.03	0.06	0.00	0.00	0.00	0.00	0.00
100.0	0.16	0.21	0.00	0.00	0.05	0.00	0.00
102.5	0.21	0.29	0.00	0.03	0.00	0.00	0.00
105.0	0.42	0.42	0.16	0.05	0.00	0.00	0.00
107.5	0.42	0.53	0.24	0.13	0.08	0.08	0.00
110.0	0.53	0.53	0.57	0.21	0.26	0.11	0.05
112.5	0.56	0.74	0.79	0.52	0.48	0.24	0.19
115.0	0.63	0.84	0.84	0.68	0.58	0.37	0.31
117.5	0.84	0.84	0.87	0.74	0.87	0.32	0.42
120.0	0.89	0.90	0.89	0.89	0.84	0.68	0.63
122.5	0.95	1.03	1.05	1.00	0.95	0.82	0.84
125.0	0.95	1.16	1.16	1.16	0.95	1.00	1.00
127.5	1.11	1.21	1.37	1.36	1.03	1.10	1.29
130.0	1.26	1.21	1.52	1.42	1.00	1.42	1.42
132.5	1.26	1.29	1.52	1.47	1.05	1.47	1.42
135.0	1.26	1.37	1.58	1.47	1.05	1.47	1.42
137.5	1.26	1.45	1.58	1.52	1.19	1.47	1.50
140.0	1.32	1.42	1.58	1.58	1.21	1.53	1.58
142.5	1.42	1.50	1.58	2.62	1.24	1.63	1.58
145.0	1.63	1.53	1.58	1.58	1.37	1.63	1.58
147.5	1.82	1.61	1.63	1.58	1.45	1.63	1.63
150.0	1.84	1.68	1.63	1.58	1.52	1.63	1.63
152.5	1.89	1.74	1.63	1.58	1.71	1.66	1.73
155.0	1.89	1.74	1.63	1.63	1.84	1.68	1.79
157.5	1.89	1.74	1.63	1.68	1.79	1.68	1.79
160.0	1.89	1.74	1.58	1.68	1.79	1.79	1.79
162.5	1.89	1.82	1.52	1.68	1.79	1.79	1.79
165.0	1.90	1.85	1.58	1.68	1.79	1.79	1.79
167.5	2.06	2.06	1.68	1.68	1.92	1.87	1.79
170.0	2.37	2.37	1.73	1.79	2.36	2.05	1.89
172.5	2.47	2.50	1.79	1.87	2.36	2.05	2.34
175.0	2.47	2.47	1.79	1.99	2.42	2.21	2.47
177.5	2.47	2.47	1.84	2.21	2.42	2.34	2.60
180.0	2.00	2.00	2.00	2.00	2.00	2.00	2.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	340.08	N.A.	14.60
0-30	723.19	N.A.	31.00
0-40	1187.16	N.A.	50.90
0-60	2090.43	N.A.	89.60
0-80	2323.97	N.A.	99.60
0-90	2327.95	N.A.	99.80
10-90	2240.28	N.A.	96.00
20-40	847.09	N.A.	36.30
20-50	1328.71	N.A.	56.90
40-70	1114.18	N.A.	47.70
60-80	233.54	N.A.	10.00
70-80	22.63	N.A.	1.00
80-90	3.98	N.A.	0.20
90-110	0.23	N.A.	0.00
90-120	0.83	N.A.	0.00
90-130	1.80	N.A.	0.10
90-150	3.87	N.A.	0.20
90-180	5.41	N.A.	0.20
110-180	5.18	N.A.	0.20
0-180	2333.36	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	87.67
10-20	252.40
20-30	383.12
30-40	463.97
40-50	481.62
50-60	421.65
60-70	210.91
70-80	22.63
80-90	3.98
90-100	0.03
100-110	0.20
110-120	0.60
120-130	0.97
130-140	1.07
140-150	1.00
150-160	0.80
160-170	0.53
170-180	0.21

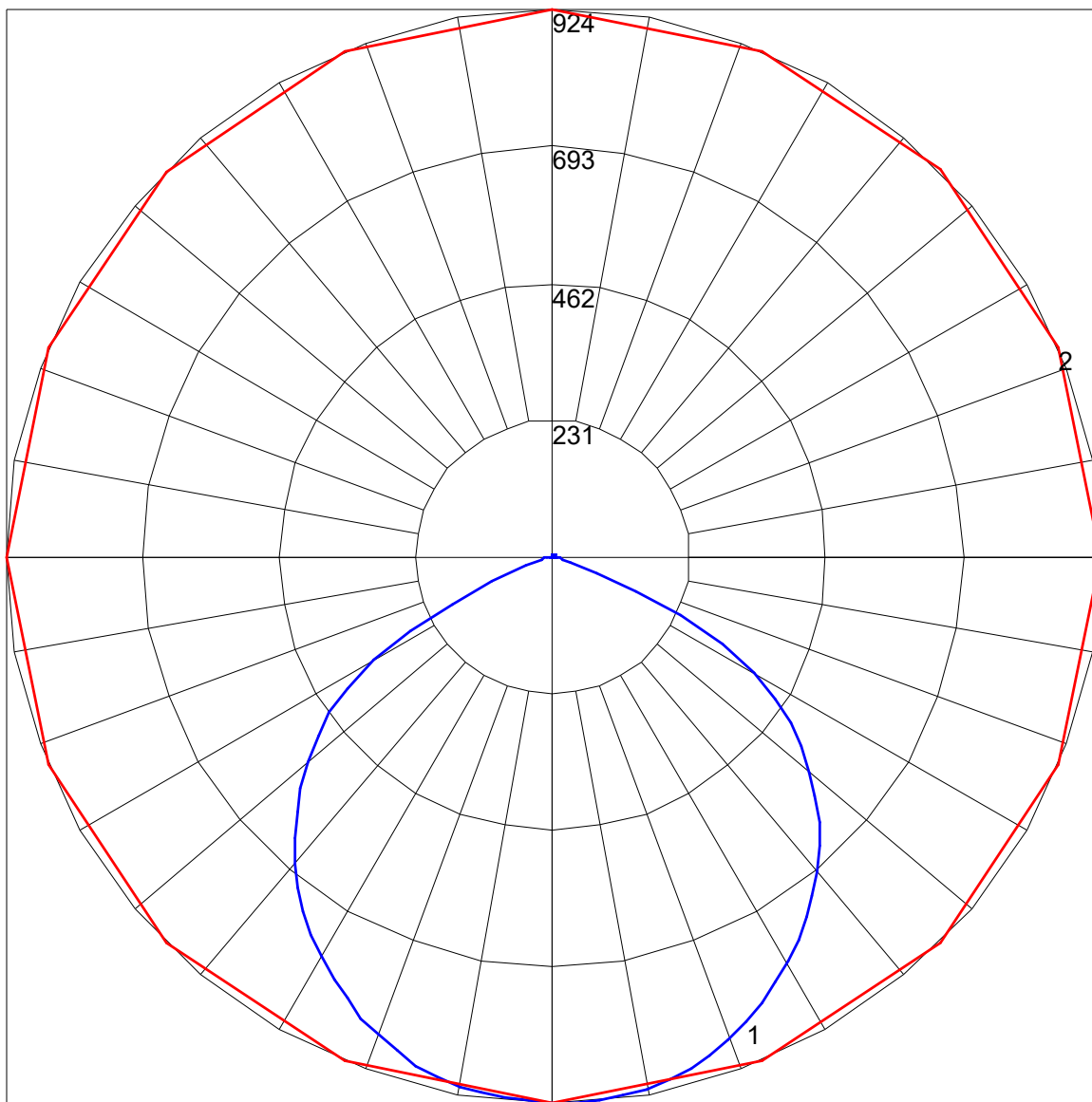
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	60	71	65	59	69	63	59	67	62	58	56
5	79	67	59	52	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	60	52	46	71	60	52	46	58	51	45	56	50	45	55	49	45	43
7	68	55	47	41	66	54	46	41	53	45	40	51	45	40	50	44	40	38
8	63	50	42	36	62	49	42	36	48	41	36	47	40	36	46	40	36	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	42	35	30	54	42	34	30	41	34	29	40	34	29	39	33	29	27

POLAR GRAPH



Maximum Candela = 923.72 Located At Horizontal Angle = 67.5, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)