



IES INDOOR REPORT

PHOTOMETRIC FILENAME : PEH-T20 & PEH-T20-RC.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]ITL90141-GONIOPHOTOMETRY

[TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.

[ISSUEDATE]01/16/18

[MANUFAC]BEGHELLI

[LUMCAT]

[LUMINAIRE]PEH -T20 & PEH-T20-RC - MOLDED WHITE PLASTIC HOUSING WITH 2 MOLDED WHITE PLASTIC

[MORE]SWIVEL HEAD ASSEMBLIES, EACH HEAD ASSEMBLY CONSISTS OF: ONE

[MORE]CIRCUIT BOARD WITH 12 LEDS, MOLDED PLASTIC REFLECTOR WITH SPECULAR

[MORE]FINISH AND 1 APERTURE PER LED, CLEAR RECTANGULAR PRISMATIC PLASTIC

[MORE]LENS. BOTH SWIVEL HEAD ASSEMBLIES WERE ILLUMINATED FOR THIS TEST.

[MORE]ONLY ONE LIGHT HEAD WAS MEASURED FOR LIGHT OUTPUT. LENS PRISMS IN.

[LAMP]TWELVE WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP

[MORE]POSITION.

[_INPUT_ELECTRICAL]3.60 VOLTS, 1.70 WATTS, 0.471 AMPS

[_MOUNTING]SURFACE

[MORE]REQUESTED INPUT VOLTAGE (3.6VDC) TO THE DRIVER. DRIVER INFORMATION

[OTHER]TEST PROCEDURE: IESNA LM-79-08

[OTHER]TEST DISTANCE = 20.0 FEET

[_ABSOLUTELUMENS]80.9

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	81
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	48
Total Luminaire Watts	1.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.38
Spacing Criterion (90-270)	0.62
Spacing Criterion (Diagonal)	0.46
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.27 ft
Luminous Width (90-270)	0.27 ft
Luminous Height	0.05 ft

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LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	366	517	1832
55	212	196	1061
65	0	235	262
75	0	0	355
85	0	0	0

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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	241	241	241	241	241	241	241	241	241	241
0.5	241	241	241	241	242	241	241	241	241	240
1.0	241	241	242	242	243	242	242	241	241	240
1.5	241	241	242	242	243	243	242	240	239	239
2.0	240	240	242	242	244	244	242	240	238	238
2.5	239	240	242	242	244	245	243	239	238	236
3.0	238	239	241	242	244	245	243	238	236	235
3.5	237	239	240	242	244	245	242	238	235	234
4.0	236	238	240	242	243	244	242	238	233	233
4.5	234	237	239	242	243	244	241	237	232	231
5.0	231	235	239	241	242	243	241	235	230	229
5.5	227	233	238	240	241	242	240	232	227	227
6.0	221	228	236	239	240	241	238	228	222	223
6.5	214	223	234	238	240	241	235	222	216	218
7.0	206	216	231	237	238	239	232	216	209	211
7.5	198	209	227	237	237	238	228	209	201	205
8.0	188	199	221	235	236	234	223	201	192	197
8.5	177	189	215	234	235	232	218	193	182	188
9.0	164	178	208	232	233	228	212	183	171	178
9.5	151	166	200	231	232	225	206	174	157	167
10.0	137	154	191	229	230	222	199	163	142	154
11.0	111	128	173	224	226	216	186	137	115	127
11.5	99	116	164	220	223	213	178	124	103	115
12.0	89	104	154	213	218	209	170	113	92	104
12.5	79	94	143	207	213	204	162	102	82	94
13.0	71	80	132	201	207	199	154	93	74	85
13.5	64	73	122	193	201	193	146	85	67	76
14.0	58	66	112	184	194	187	137	77	61	69
14.5	53	60	103	175	187	180	129	71	55	62
15.0	49	55	94	165	179	173	120	65	51	56
16.0	40	47	78	144	158	155	102	56	41	48
17.0	34	41	64	124	134	136	86	48	35	41
18.0	31	37	54	106	111	116	70	41	31	36
19.0	29	33	46	91	85	96	60	35	29	33
20.0	28	31	40	76	69	79	51	31	28	31
22.5	26	27	29	48	41	49	35	25	26	29
25.0	23	25	24	33	28	33	26	23	25	27
27.5	17	19	22	24	26	27	21	21	19	22
30.0	13	14	20	22	26	25	18	16	14	16
32.5	11	10	15	19	19	20	17	11	12	11
35.0	10	9	11	14	15	15	16	9	10	9
37.5	9	8	8	11	13	13	14	8	8	7
40.0	6	6	6	9	12	11	8	6	6	5
42.5	4	4	5	8	10	10	5	4	4	4
45.0	2	3	3	6	10	8	3	3	3	3
47.5	1	2	2	4	9	7	2	2	2	2
50.0	1	1	1	4	8	6	2	2	1	1
52.5	1	1	1	3	6	4	1	1	1	1
55.0	1	1	1	2	5	4	1	1	1	1
57.5	1	1	1	1	4	3	1	1	1	1
60.0	1	1	1	1	2	2	1	1	1	1
62.5	1	1	1	1	2	1	1	1	1	1
65.0	0	1	1	1	1	1	1	1	1	1
67.5	0	1	1	1	1	1	1	1	0	1

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CANDELA TABULATION - (Cont.)

70.0	0	0	0	1	1	1	1	1	0	1
72.5	0	0	0	1	1	1	1	0	0	0
75.0	0	0	0	1	1	1	0	0	0	0
77.5	0	0	0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0	0	0	0
82.5	0	0	0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0
92.5	0	0	0	0	0	0	0	0	0	0
95.0	0	0	0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0	0	0	0
107.5	0	0	0	0	0	0	0	0	0	0
110.0	0	0	0	0	0	0	0	0	0	0
112.5	0	0	0	0	0	0	0	0	0	0
115.0	0	0	0	0	0	0	0	0	0	0
117.5	0	0	0	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0	0	0	0
122.5	0	0	0	0	0	0	0	0	0	0
125.0	0	0	0	0	0	0	0	0	0	0
127.5	0	0	0	0	0	0	0	0	0	0
130.0	0	0	0	0	0	0	0	0	0	0
132.5	0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0	0
137.5	0	0	0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0	0	0	0
142.5	0	0	0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0	0	0	0
147.5	0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0	0
152.5	0	0	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0	0
157.5	0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

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	241	241	241	241	241	241	241
0.5	241	241	241	241	241	241	241
1.0	240	241	241	241	241	241	241
1.5	240	241	241	242	241	240	241
2.0	239	240	241	242	241	239	240
2.5	238	241	242	243	241	239	239
3.0	237	240	242	243	241	238	238

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CANDELA TABULATION - (Cont.)

3.5	236	240	243	244	241	238	237
4.0	235	240	243	245	241	237	236
4.5	235	240	245	246	241	236	234
5.0	234	241	246	247	241	234	231
5.5	233	242	246	247	240	232	227
6.0	232	242	248	248	240	229	221
6.5	231	243	250	249	239	224	214
7.0	229	245	252	250	238	218	206
7.5	226	247	254	252	237	211	198
8.0	222	249	257	254	234	203	188
8.5	218	251	260	254	230	194	177
9.0	213	253	263	255	225	185	164
9.5	207	254	265	255	220	175	151
10.0	200	254	266	256	214	164	137
11.0	184	252	265	255	201	139	111
11.5	175	250	263	254	193	128	99
12.0	166	246	260	252	181	117	89
12.5	156	240	255	250	173	107	79
13.0	146	233	241	244	163	97	71
13.5	134	224	228	234	152	89	64
14.0	123	212	214	221	140	80	58
14.5	113	199	199	208	130	73	53
15.0	103	185	185	193	120	66	49
16.0	79	158	155	162	101	55	40
17.0	64	133	125	133	84	47	34
18.0	52	112	99	108	70	39	31
19.0	42	92	77	86	58	34	29
20.0	36	75	60	68	49	31	28
22.5	27	44	35	39	36	25	26
25.0	24	29	28	28	27	23	23
27.5	24	24	26	26	22	19	17
30.0	21	22	25	25	18	15	13
32.5	16	19	19	22	18	11	11
35.0	12	16	14	15	17	9	10
37.5	9	11	14	13	14	8	9
40.0	7	9	12	12	8	6	6
42.5	4	8	11	10	5	3	4
45.0	3	7	10	8	3	2	2
47.5	2	5	9	6	2	2	1
50.0	1	4	8	6	1	1	1
52.5	1	3	7	5	1	1	1
55.0	1	2	5	4	1	1	1
57.5	1	1	3	2	1	1	1
60.0	1	1	2	2	1	1	1
62.5	1	1	2	1	1	1	1
65.0	1	1	1	1	1	1	0
67.5	1	1	1	1	1	1	0
70.0	1	1	1	1	1	1	0
72.5	1	1	1	1	0	0	0
75.0	0	1	1	0	0	0	0
77.5	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0
82.5	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0

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CANDELA TABULATION - (Cont.)

92.5	0	0	0	0	0	0	0
95.0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0
107.5	0	0	0	0	0	0	0
110.0	0	0	0	0	0	0	0
112.5	0	0	0	0	0	0	0
115.0	0	0	0	0	0	0	0
117.5	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0
122.5	0	0	0	0	0	0	0
125.0	0	0	0	0	0	0	0
127.5	0	0	0	0	0	0	0
130.0	0	0	0	0	0	0	0
132.5	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0
137.5	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0
142.5	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0
147.5	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0
152.5	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0
157.5	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	52.74	N.A.	65.20
0-30	65.92	N.A.	81.40
0-40	74.02	N.A.	91.40
0-60	79.66	N.A.	98.40
0-80	80.94	N.A.	100.00
0-90	80.94	N.A.	100.00
10-90	59.39	N.A.	73.40
20-40	21.28	N.A.	26.30
20-50	25.14	N.A.	31.10
40-70	6.61	N.A.	8.20
60-80	1.28	N.A.	1.60
70-80	0.31	N.A.	0.40
80-90	0.00	N.A.	0.00
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	80.94	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	21.55
10-20	31.19
20-30	13.18
30-40	8.10
40-50	3.86
50-60	1.78
60-70	0.97
70-80	0.31
80-90	0.00
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

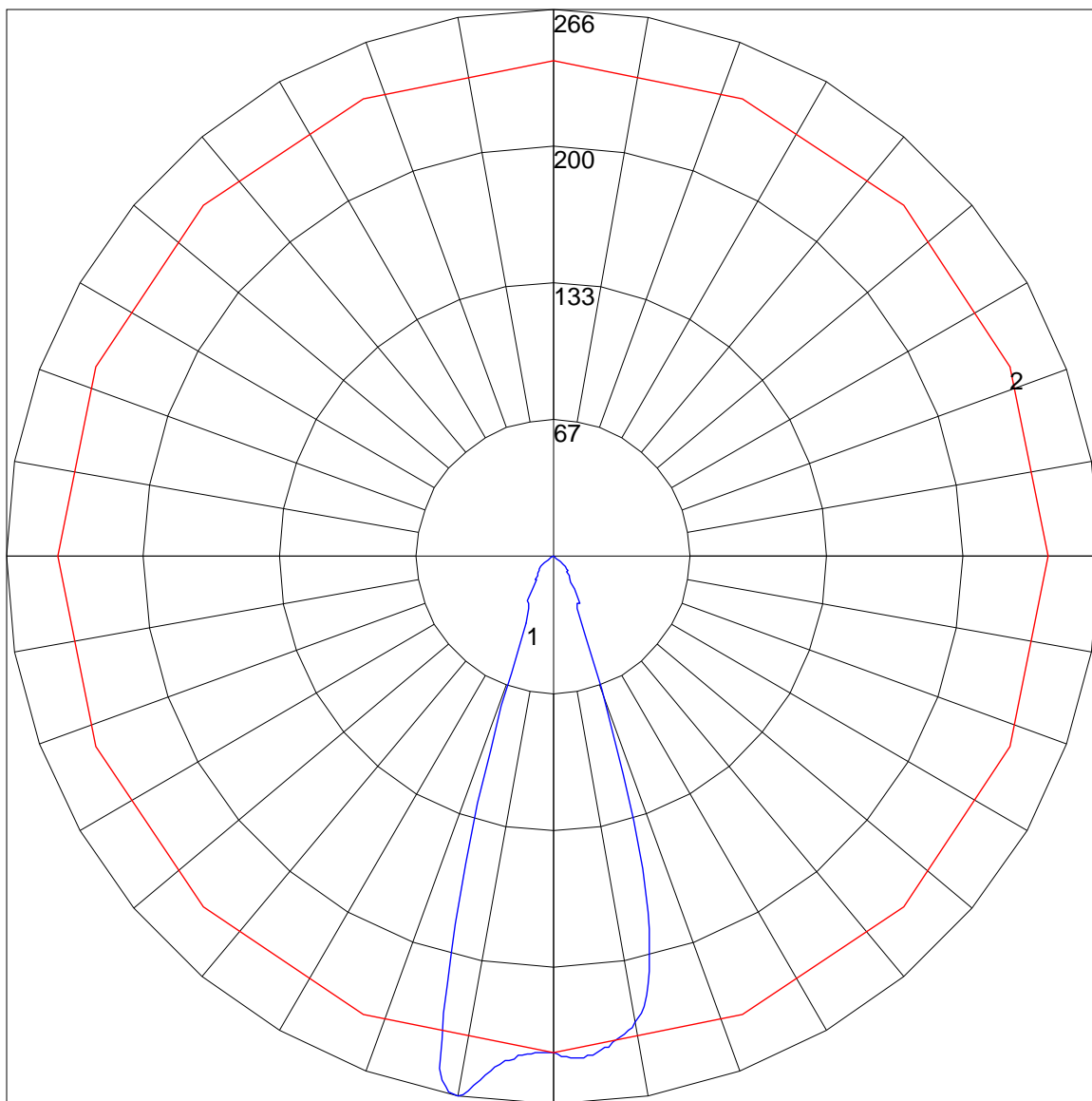
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	114	112	109	107	112	109	108	106	105	104	102	102	101	99	98	97	97	95
2	109	105	102	99	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	92	103	98	94	91	95	92	89	93	90	88	91	89	87	85
4	101	94	89	86	99	93	89	85	91	87	84	89	86	83	87	85	82	81
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77
6	93	86	81	77	92	85	80	77	84	79	76	82	79	76	81	78	75	74
7	90	82	77	73	89	81	77	73	80	76	73	79	75	73	78	75	72	71
8	87	79	74	70	86	78	74	70	77	73	70	76	72	70	75	72	69	68
9	84	76	71	68	83	75	71	68	74	70	67	74	70	67	73	69	67	66
10	81	73	68	65	80	73	68	65	72	68	65	71	67	65	71	67	65	63

POLAR GRAPH



Maximum Candela = 266 Located At Horizontal Angle = 270, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (270 - 90) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0)