

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P130183

Luminaire Tested: **HL612ICAT - HLM6935 - HL6FL - 70PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130183
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33455)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL612ICAT - HLM6935 - HL6FL - 70PS
Description: HALO ALLSLOPE 6" 21W, Albalite Glass Lens, White Polymer Trim Ring
"Dead Front", Wet Location - Showerlight using 40 Degree Optic at a 6-12
Pitch
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 853.2 lumens
Efficiency: N/A
Efficacy: 44.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.05 / 1.21
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

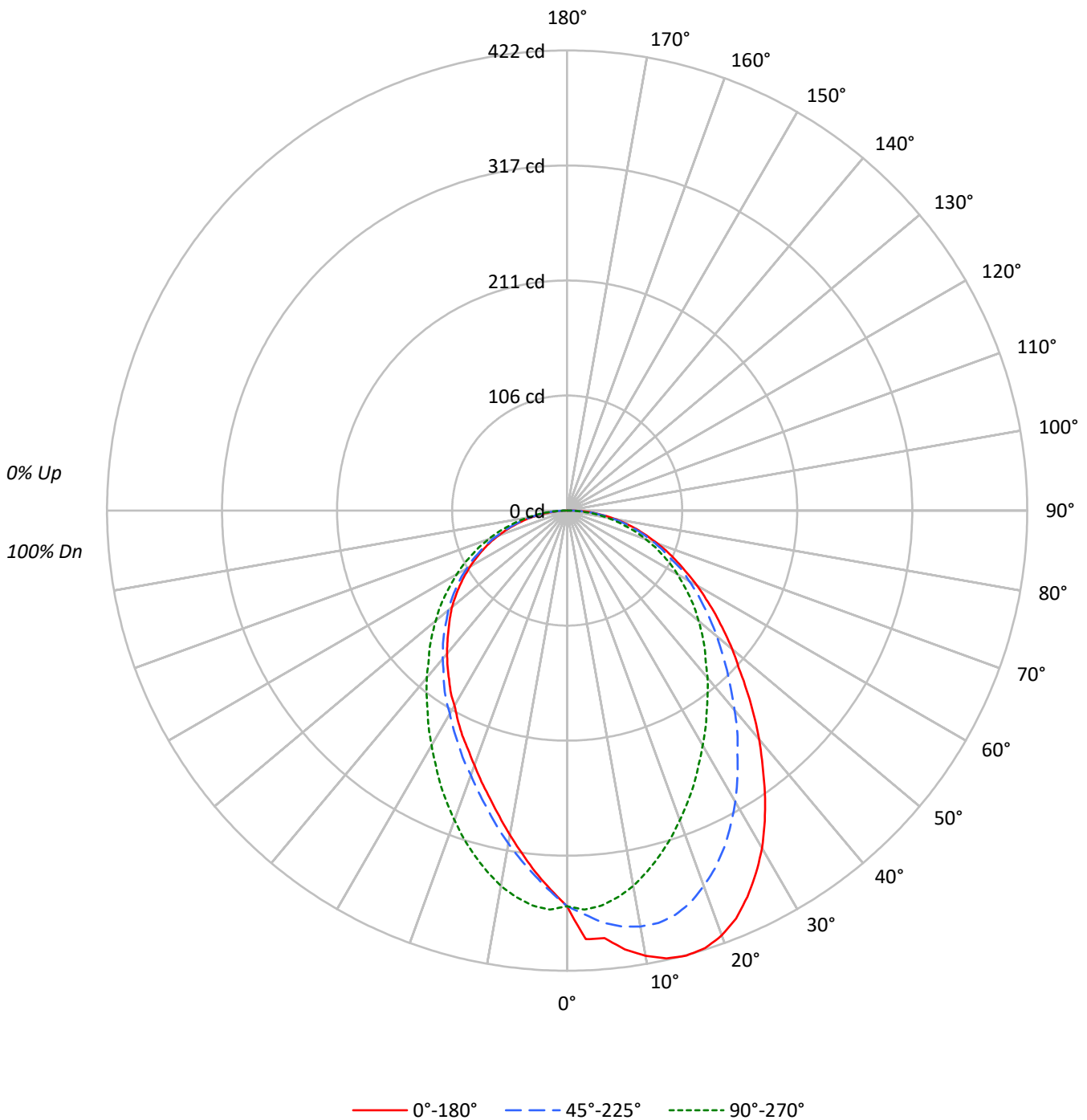
Input Watts (W): 19.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84
2	99	91	84	78	96	89	83	78	85	80	76	82	78	74	79	76	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	54	47	42	52	46	42	40
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	48	42	37	35
8	62	48	40	34	60	48	40	34	46	39	34	45	39	34	44	38	34	32
9	58	45	36	31	56	44	36	31	43	36	31	42	35	31	41	35	30	29
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	21656	21656	21656
5°	23042	21291	19494
10°	24005	20241	17491
15°	24374	18899	15761
20°	24014	17498	14399
25°	22907	16162	13332
30°	21363	14856	12334
35°	19427	13707	11599
40°	17458	12762	10914
45°	15526	11891	10251
50°	13936	11087	9726
55°	12523	10335	9075
60°	11274	9549	8404
65°	10032	8691	7666
70°	8857	7707	6739
75°	7631	6508	5593
80°	6143	5060	4209
85°	4173	3121	2239



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.1	4.0
10°-20°	94.4	11.1
20°-30°	133.4	15.6
30°-40°	147.7	17.3
40°-50°	142.5	16.7
50°-60°	124.5	14.6
60°-70°	96.0	11.3
70°-80°	59.9	7.0
80°-90°	20.6	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	261.9	30.7
0°-40°	409.6	48.0
0°-60°	676.7	79.3
0°-90°	853.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	853.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	363	363	363	363	363	
5°	394	379	364	336	333	38
15°	422	384	328	283	273	119
25°	391	341	276	236	228	179
35°	316	272	223	197	189	197
45°	233	207	178	160	154	180
55°	166	153	137	125	120	149
65°	112	105	97	88	85	111
75°	66	63	56	51	48	70
85°	25	23	18	15	13	26
90°	0	0	0	0	0	



TEST NUMBER: P130183

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8
2.5°	393.5	375.0	381.2	374.2	373.3	368.9	373.3	375.9	368.9	370.7	371.5
5°	393.5	390.0	394.4	387.3	386.5	390.0	385.6	386.5	377.7	379.4	378.6
7.5°	405.8	401.4	406.7	398.8	397.9	399.6	394.4	395.2	384.7	384.7	383.8
10°	414.6	411.1	415.5	406.7	404.9	406.7	400.5	400.5	388.2	387.3	384.7
12.5°	420.7	417.2	420.7	411.9	410.2	411.1	403.2	401.4	389.1	387.3	383.0
15°	422.5	419.0	423.4	412.8	411.1	410.2	402.3	400.5	386.5	383.8	378.6
17.5°	420.7	417.2	420.7	410.2	407.5	405.8	397.9	395.2	381.2	376.8	370.7
20°	414.6	409.3	414.6	404.0	400.5	398.8	389.1	386.5	371.5	366.3	360.1
22.5°	404.9	401.4	404.9	393.5	390.9	388.2	378.6	375.0	360.1	354.8	346.9
25°	390.9	389.1	386.5	380.3	376.8	375.0	365.4	361.0	346.1	340.8	332.9
27.5°	375.0	373.3	375.0	363.6	361.0	357.5	349.6	345.2	330.3	325.0	316.2
30°	357.5	354.0	356.6	346.1	344.3	339.0	331.1	327.6	312.7	308.3	299.5
32.5°	337.3	335.5	337.3	326.7	324.1	320.6	312.7	309.2	295.1	290.7	283.7
35°	316.2	312.7	315.3	305.7	303.9	299.5	292.5	289.0	276.7	272.3	266.1
37.5°	294.2	291.6	294.2	285.5	283.7	279.3	274.0	269.6	258.2	256.5	249.4
40°	274.0	271.4	273.2	266.1	263.5	260.9	255.6	251.2	241.5	238.9	228.4
42.5°	253.0	251.2	253.0	245.1	243.3	240.7	236.3	233.6	224.9	222.2	216.9
45°	232.8	231.9	233.6	227.5	224.9	223.1	218.7	216.9	208.2	207.3	202.9
47.5°	213.4	217.8	214.3	209.0	207.3	204.7	202.0	201.1	193.2	192.4	188.0
50°	197.6	195.9	195.9	191.5	191.5	188.8	187.1	185.3	179.2	179.2	174.8
52.5°	180.9	180.1	180.1	176.5	175.7	174.8	172.2	171.3	165.1	166.0	162.5
55°	166.0	168.6	165.1	161.6	161.6	159.9	159.0	158.1	152.8	152.8	149.3
57.5°	151.1	150.2	151.1	147.6	147.6	145.8	144.9	144.9	139.7	141.4	137.9
60°	137.9	136.1	137.0	134.4	133.5	133.5	134.4	132.6	128.2	129.1	126.5
62.5°	123.8	123.0	124.7	121.2	121.2	121.2	120.3	120.3	115.9	119.5	115.1
65°	111.5	110.7	112.4	109.8	109.8	108.9	108.0	108.0	105.4	105.4	104.5
67.5°	100.1	99.3	101.0	98.4	98.4	97.5	97.5	96.6	94.0	94.9	93.1
70°	87.8	87.8	88.7	87.0	87.0	86.1	86.1	85.2	83.4	84.3	82.6
72.5°	76.4	76.4	77.3	75.5	75.5	74.7	74.7	74.7	72.9	73.8	72.0
75°	65.9	65.9	65.9	65.0	65.0	64.1	64.1	64.1	62.4	63.2	62.4
77.5°	55.3	55.3	55.3	54.5	54.5	53.6	53.6	53.6	51.8	52.7	51.8
80°	44.8	44.8	44.8	43.9	43.9	43.0	43.0	43.0	42.2	43.0	42.2
82.5°	34.3	34.3	35.1	34.3	34.3	33.4	33.4	33.4	32.5	32.5	32.5
85°	24.6	24.6	25.5	24.6	23.7	23.7	23.7	22.8	22.8	22.8	22.8
87.5°	15.8	15.8	15.8	15.8	14.9	14.9	14.1	14.1	14.1	14.1	14.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8
2.5°	372.4	368.0	368.9	365.4	366.3	364.5	363.6	366.3	358.4	364.5	360.1
5°	378.6	372.4	372.4	367.1	367.1	363.6	361.0	363.6	353.1	358.4	353.1
7.5°	381.2	374.2	372.4	366.3	365.4	360.1	356.6	357.5	346.9	350.5	343.4
10°	382.1	373.3	370.7	362.8	360.1	354.8	348.7	349.6	337.3	340.8	332.9
12.5°	378.6	368.9	365.4	356.6	352.2	346.1	339.0	339.0	325.9	329.4	321.5
15°	373.3	362.8	357.5	347.8	343.4	336.4	328.5	327.6	315.3	316.2	308.3
17.5°	364.5	353.1	346.1	336.4	332.0	324.1	316.2	315.3	303.0	303.9	296.0
20°	353.1	340.8	334.6	325.0	324.1	311.8	303.9	302.1	289.0	290.7	282.8
22.5°	340.8	328.5	321.5	310.9	305.7	297.8	289.8	289.0	276.7	276.7	269.6
25°	325.0	313.6	307.4	296.9	291.6	284.6	275.8	275.8	263.5	263.5	257.4
27.5°	310.1	298.6	291.6	281.9	277.6	275.8	262.6	261.7	250.3	251.2	245.1
30°	293.4	285.5	276.7	267.0	262.6	256.5	249.4	248.6	238.0	234.5	232.8
32.5°	277.6	267.0	261.7	253.0	248.6	242.4	236.3	236.3	225.7	227.5	221.3
35°	260.9	256.5	245.9	238.0	234.5	230.1	223.1	223.1	214.3	215.2	210.8
37.5°	244.2	235.4	235.4	224.9	217.8	216.9	211.7	211.7	202.9	204.7	200.3
40°	229.2	221.3	216.9	211.7	208.2	204.7	200.3	200.3	192.4	194.1	189.7
42.5°	214.3	206.4	203.8	198.5	195.9	192.4	188.0	188.0	181.8	182.7	179.2
45°	200.3	193.2	191.5	188.8	183.6	181.8	177.4	178.3	171.3	172.2	169.5
47.5°	186.2	180.1	178.3	173.9	172.2	169.5	166.0	167.8	160.7	161.6	159.9
50°	173.9	167.8	166.9	162.5	161.6	159.9	156.3	157.2	152.0	152.8	151.1
52.5°	161.6	156.3	155.5	152.0	151.1	148.4	145.8	147.6	142.3	143.2	140.5
55°	149.3	144.9	144.0	140.5	140.5	138.8	135.3	137.0	131.7	133.5	130.9
57.5°	137.0	134.4	132.6	130.0	130.0	128.2	125.6	126.5	123.0	123.0	122.1
60°	126.5	122.1	123.0	119.5	119.5	118.6	115.1	116.8	112.4	113.3	112.4
62.5°	115.1	111.5	111.5	109.8	108.9	108.0	105.4	107.2	102.8	103.6	101.9
65°	104.5	101.9	101.0	99.3	98.4	97.5	95.7	96.6	93.1	94.0	93.1
67.5°	93.1	91.3	90.5	88.7	88.7	87.8	85.2	87.0	83.4	84.3	83.4
70°	82.6	80.8	80.8	78.2	78.2	77.3	75.5	76.4	73.8	73.8	73.8
72.5°	72.9	70.3	69.4	68.5	68.5	67.6	65.9	66.8	64.1	64.1	63.2
75°	62.4	60.6	60.6	58.8	58.0	58.0	56.2	56.2	54.5	54.5	53.6
77.5°	51.8	50.1	50.1	48.3	48.3	48.3	46.6	46.6	44.8	44.8	44.8
80°	42.2	40.4	40.4	38.6	38.6	38.6	36.9	36.9	35.1	35.1	35.1
82.5°	32.5	30.7	30.7	29.9	29.0	29.0	28.1	27.2	26.3	26.3	26.3
85°	22.8	22.0	22.0	21.1	20.2	20.2	18.4	18.4	17.6	17.6	17.6
87.5°	13.2	13.2	12.3	12.3	12.3	11.4	10.5	9.7	8.8	8.8	9.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8	362.8
2.5°	356.6	355.7	356.6	359.2	356.6	349.6	356.6	352.2	348.7	350.5	346.9
5°	347.8	346.9	346.1	347.8	343.4	336.4	343.4	339.0	333.8	333.8	332.0
7.5°	338.2	336.4	334.6	335.5	331.1	323.2	328.5	325.0	320.6	321.5	317.1
10°	327.6	324.1	322.3	322.3	317.1	310.1	314.4	310.9	305.7	306.5	302.1
12.5°	315.3	311.8	310.1	309.2	303.9	296.9	301.3	296.9	292.5	292.5	288.1
15°	299.5	298.6	296.9	296.0	290.7	282.8	288.1	282.8	278.4	279.3	274.9
17.5°	289.8	285.5	282.8	281.9	277.6	270.5	274.9	270.5	266.1	266.1	261.7
20°	277.6	273.2	269.6	269.6	264.4	258.2	262.6	259.1	253.0	254.7	250.3
22.5°	264.4	260.0	258.2	257.4	252.1	247.7	251.2	247.7	242.4	242.4	238.9
25°	252.1	248.6	246.8	245.9	240.7	236.3	239.8	237.1	231.9	232.8	228.4
27.5°	240.7	236.3	234.5	234.5	230.1	225.7	229.2	225.7	221.3	222.2	217.8
30°	228.4	224.9	224.0	224.0	218.7	215.2	217.8	215.2	210.8	211.7	208.2
32.5°	217.8	215.2	213.4	213.4	209.0	206.4	209.0	206.4	202.9	202.9	199.4
35°	207.3	203.8	202.9	206.4	199.4	196.7	198.5	196.7	193.2	193.2	189.7
37.5°	196.7	194.1	193.2	194.1	188.8	186.2	189.7	188.0	184.4	184.4	179.2
40°	186.2	184.4	183.6	183.6	180.1	177.4	180.9	178.3	175.7	175.7	172.2
42.5°	176.5	173.9	173.9	174.8	170.4	168.6	171.3	169.5	166.0	166.0	163.4
45°	167.8	165.1	164.2	165.1	166.0	159.9	162.5	161.6	154.6	158.1	155.5
47.5°	158.1	155.5	155.5	155.5	152.8	150.2	152.8	152.0	148.4	149.3	146.7
50°	149.3	146.7	145.8	146.7	143.2	142.3	144.9	143.2	137.9	140.5	138.8
52.5°	138.8	137.0	137.0	137.9	135.3	133.5	136.1	134.4	131.7	131.7	130.0
55°	130.0	128.2	128.2	129.1	126.5	124.7	126.5	125.6	123.0	123.0	121.2
57.5°	120.3	118.6	119.5	119.5	116.8	115.9	117.7	115.9	114.2	114.2	112.4
60°	110.7	108.9	109.8	109.8	108.0	106.3	108.0	107.2	104.5	104.5	103.6
62.5°	101.0	100.1	100.1	100.1	98.4	97.5	98.4	97.5	95.7	95.7	94.0
65°	92.2	90.5	90.5	90.5	88.7	87.8	88.7	87.8	87.0	86.1	85.2
67.5°	82.6	81.7	80.8	80.8	79.0	79.0	79.0	78.2	77.3	76.4	75.5
70°	72.9	71.1	71.1	71.1	70.3	69.4	69.4	68.5	68.5	67.6	66.8
72.5°	63.2	61.5	62.4	61.5	60.6	59.7	59.7	59.7	58.8	58.0	58.0
75°	53.6	52.7	52.7	52.7	50.9	50.9	50.9	50.1	49.2	49.2	48.3
77.5°	43.9	43.0	44.8	43.0	42.2	41.3	41.3	41.3	39.5	39.5	39.5
80°	35.1	33.4	34.3	34.3	32.5	32.5	31.6	31.6	30.7	30.7	30.7
82.5°	25.5	25.5	25.5	24.6	23.7	23.7	23.7	22.8	22.0	22.0	22.0
85°	16.7	16.7	15.8	15.8	15.8	14.9	14.9	14.1	13.2	13.2	13.2
87.5°	7.9	7.9	7.9	7.9	7.0	7.0	7.0	6.1	6.1	5.3	6.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: HL612ICAT - HLM6935 - HL6FL - 70PS

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	362.8	362.8	362.8	362.8
2.5°	346.1	348.7	349.6	347.8
5°	331.1	333.8	333.8	332.9
7.5°	315.3	319.7	318.8	317.1
10°	300.4	304.8	303.9	302.1
12.5°	286.3	289.8	289.0	287.2
15°	272.3	276.7	275.8	273.2
17.5°	260.0	263.5	263.5	260.9
20°	248.6	252.1	251.2	248.6
22.5°	238.0	240.7	239.8	237.1
25°	227.5	235.4	229.2	227.5
27.5°	216.9	220.5	219.6	216.9
30°	207.3	209.9	209.0	206.4
32.5°	198.5	202.0	200.3	198.5
35°	188.8	192.4	190.6	188.8
37.5°	180.9	183.6	181.8	180.1
40°	171.3	174.8	173.9	171.3
42.5°	163.4	166.0	165.1	162.5
45°	155.5	158.1	157.2	153.7
47.5°	146.7	149.3	147.6	145.8
50°	137.9	140.5	139.7	137.9
52.5°	130.0	132.6	130.9	129.1
55°	121.2	123.8	122.1	120.3
57.5°	112.4	115.1	113.3	111.5
60°	102.8	105.4	103.6	102.8
62.5°	94.0	96.6	94.9	94.0
65°	85.2	87.0	86.1	85.2
67.5°	76.4	78.2	76.4	76.4
70°	66.8	68.5	67.6	66.8
72.5°	57.1	58.8	58.8	58.0
75°	48.3	49.2	49.2	48.3
77.5°	39.5	40.4	39.5	39.5
80°	30.7	30.7	30.7	30.7
82.5°	22.0	22.8	22.0	22.0
85°	13.2	14.1	13.2	13.2
87.5°	5.3	6.1	5.3	6.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)