

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: P130181

Luminaire Tested: **HL612ICAT - HLM6927 - HL6FL - 70PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130181
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 - HLM6927 - 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 743.6 lumens
Efficiency: N/A
Efficacy: 38.9 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

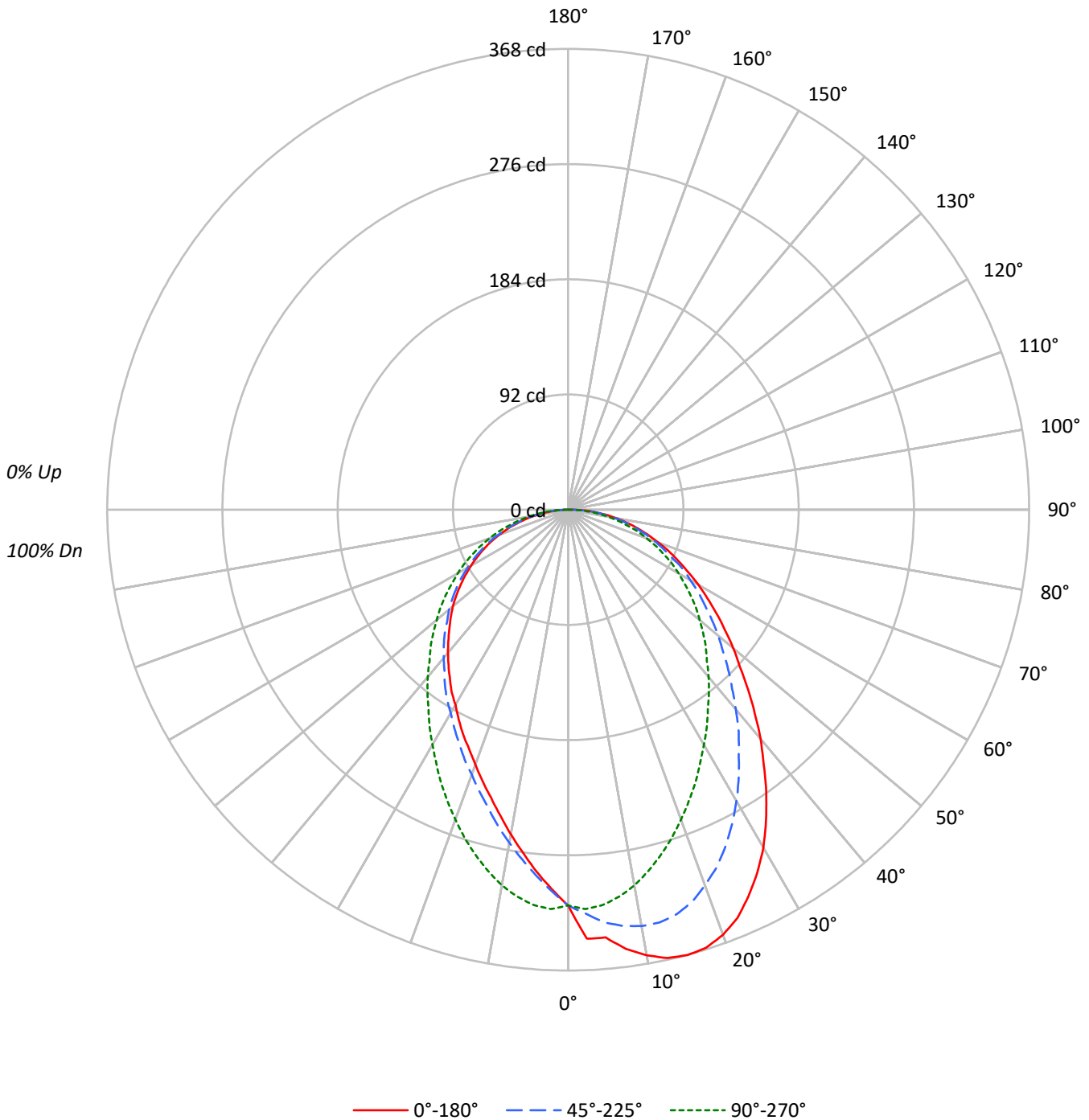
Input Watts (W): 19.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	18868	18868	18868
5°	20079	18557	16987
10°	20919	17642	15245
15°	21241	16470	13736
20°	20926	15250	12545
25°	19959	14088	11620
30°	18620	12943	10750
35°	16932	11944	10113
40°	15215	11118	9513
45°	13532	10364	8937
50°	12145	9662	8477
55°	10916	9007	7914
60°	9827	8323	7325
65°	8745	7576	6685
70°	7717	6718	5871
75°	6647	5674	4875
80°	5348	4415	3675
85°	3630	2731	1951



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	4.0
10°-20°	82.2	11.1
20°-30°	116.3	15.6
30°-40°	128.7	17.3
40°-50°	124.2	16.7
50°-60°	108.5	14.6
60°-70°	83.7	11.3
70°-80°	52.2	7.0
80°-90°	18.0	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°	228.3	30.7
0°-40°	357.0	48.0
0°-60°	589.8	79.3
0°-90°	743.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	743.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	316	316	316	316	316	
5°	343	331	317	293	290	33
15°	368	334	286	246	238	104
25°	341	297	240	206	198	156
35°	276	237	194	172	165	172
45°	203	181	155	139	134	157
55°	145	133	119	109	105	130
65°	97	92	84	76	74	97
75°	57	55	49	44	42	61
85°	21	20	16	13	12	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1
2.5°	342.9	326.9	332.2	326.1	325.3	321.5	325.3	327.6	321.5	323.0	323.8
5°	342.9	339.9	343.7	337.6	336.8	339.9	336.0	336.8	329.2	330.7	329.9
7.5°	353.7	349.8	354.4	347.5	346.8	348.3	343.7	344.5	335.3	335.3	334.5
10°	361.3	358.2	362.1	354.4	352.9	354.4	349.1	349.1	338.3	337.6	335.3
12.5°	366.7	363.6	366.7	359.0	357.5	358.2	351.4	349.8	339.1	337.6	333.8
15°	368.2	365.1	369.0	359.8	358.2	357.5	350.6	349.1	336.8	334.5	329.9
17.5°	366.7	363.6	366.7	357.5	355.2	353.7	346.8	344.5	332.2	328.4	323.0
20°	361.3	356.7	361.3	352.1	349.1	347.5	339.1	336.8	323.8	319.2	313.8
22.5°	352.9	349.8	352.9	342.9	340.6	338.3	329.9	326.9	313.8	309.3	302.4
25°	340.6	339.1	336.8	331.5	328.4	326.9	318.4	314.6	301.6	297.0	290.1
27.5°	326.9	325.3	326.9	316.9	314.6	311.6	304.7	300.8	287.8	283.2	275.6
30°	311.6	308.5	310.8	301.6	300.1	295.5	288.6	285.5	272.5	268.7	261.0
32.5°	293.9	292.4	293.9	284.8	282.5	279.4	272.5	269.5	257.2	253.4	247.3
35°	275.6	272.5	274.8	266.4	264.9	261.0	254.9	251.8	241.1	237.3	231.9
37.5°	256.4	254.1	256.4	248.8	247.3	243.4	238.8	235.0	225.1	223.5	217.4
40°	238.8	236.5	238.1	231.9	229.6	227.3	222.8	218.9	210.5	208.2	199.0
42.5°	220.5	218.9	220.5	213.6	212.0	209.7	205.9	203.6	196.0	193.7	189.1
45°	202.9	202.1	203.6	198.3	196.0	194.4	190.6	189.1	181.4	180.7	176.8
47.5°	186.0	189.8	186.8	182.2	180.7	178.4	176.1	175.3	168.4	167.6	163.8
50°	172.2	170.7	170.7	166.9	166.9	164.6	163.0	161.5	156.2	156.2	152.3
52.5°	157.7	156.9	156.9	153.9	153.1	152.3	150.0	149.3	143.9	144.7	141.6
55°	144.7	147.0	143.9	140.8	140.8	139.3	138.6	137.8	133.2	133.2	130.1
57.5°	131.7	130.9	131.7	128.6	128.6	127.1	126.3	126.3	121.7	123.2	120.2
60°	120.2	118.7	119.4	117.1	116.4	116.4	117.1	115.6	111.8	112.5	110.2
62.5°	107.9	107.2	108.7	105.6	105.6	105.6	104.9	104.9	101.0	104.1	100.3
65°	97.2	96.5	98.0	95.7	95.7	94.9	94.2	94.2	91.9	91.9	91.1
67.5°	87.3	86.5	88.0	85.7	85.7	85.0	85.0	84.2	81.9	82.7	81.1
70°	76.5	76.5	77.3	75.8	75.8	75.0	75.0	74.3	72.7	73.5	72.0
72.5°	66.6	66.6	67.4	65.8	65.8	65.1	65.1	65.1	63.5	64.3	62.8
75°	57.4	57.4	57.4	56.6	56.6	55.9	55.9	55.9	54.3	55.1	54.3
77.5°	48.2	48.2	48.2	47.5	47.5	46.7	46.7	46.7	45.2	45.9	45.2
80°	39.0	39.0	39.0	38.3	38.3	37.5	37.5	37.5	36.7	37.5	36.7
82.5°	29.9	29.9	30.6	29.9	29.9	29.1	29.1	29.1	28.3	28.3	28.3
85°	21.4	21.4	22.2	21.4	20.7	20.7	20.7	19.9	19.9	19.9	19.9
87.5°	13.8	13.8	13.8	13.8	13.0	13.0	12.2	12.2	12.2	12.2	12.2
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°	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1
2.5°	324.6	320.7	321.5	318.4	319.2	317.7	316.9	319.2	312.3	317.7	313.8
5°	329.9	324.6	324.6	320.0	320.0	316.9	314.6	316.9	307.7	312.3	307.7
7.5°	332.2	326.1	324.6	319.2	318.4	313.8	310.8	311.6	302.4	305.4	299.3
10°	333.0	325.3	323.0	316.1	313.8	309.3	303.9	304.7	293.9	297.0	290.1
12.5°	329.9	321.5	318.4	310.8	307.0	301.6	295.5	295.5	284.0	287.1	280.2
15°	325.3	316.1	311.6	303.1	299.3	293.2	286.3	285.5	274.8	275.6	268.7
17.5°	317.7	307.7	301.6	293.2	289.4	282.5	275.6	274.8	264.1	264.9	258.0
20°	307.7	297.0	291.6	283.2	282.5	271.7	264.9	263.3	251.8	253.4	246.5
22.5°	297.0	286.3	280.2	271.0	266.4	259.5	252.6	251.8	241.1	241.1	235.0
25°	283.2	273.3	267.9	258.7	254.1	248.0	240.4	240.4	229.6	229.6	224.3
27.5°	270.2	260.3	254.1	245.7	241.9	240.4	228.9	228.1	218.2	218.9	213.6
30°	255.7	248.8	241.1	232.7	228.9	223.5	217.4	216.6	207.4	204.4	202.9
32.5°	241.9	232.7	228.1	220.5	216.6	211.3	205.9	205.9	196.7	198.3	192.9
35°	227.3	223.5	214.3	207.4	204.4	200.6	194.4	194.4	186.8	187.5	183.7
37.5°	212.8	205.1	205.1	196.0	189.8	189.1	184.5	184.5	176.8	178.4	174.5
40°	199.8	192.9	189.1	184.5	181.4	178.4	174.5	174.5	167.6	169.2	165.3
42.5°	186.8	179.9	177.6	173.0	170.7	167.6	163.8	163.8	158.5	159.2	156.2
45°	174.5	168.4	166.9	164.6	160.0	158.5	154.6	155.4	149.3	150.0	147.7
47.5°	162.3	156.9	155.4	151.6	150.0	147.7	144.7	146.2	140.1	140.8	139.3
50°	151.6	146.2	145.4	141.6	140.8	139.3	136.3	137.0	132.4	133.2	131.7
52.5°	140.8	136.3	135.5	132.4	131.7	129.4	127.1	128.6	124.0	124.8	122.5
55°	130.1	126.3	125.5	122.5	122.5	120.9	117.9	119.4	114.8	116.4	114.1
57.5°	119.4	117.1	115.6	113.3	113.3	111.8	109.5	110.2	107.2	107.2	106.4
60°	110.2	106.4	107.2	104.1	104.1	103.3	100.3	101.8	98.0	98.7	98.0
62.5°	100.3	97.2	97.2	95.7	94.9	94.2	91.9	93.4	89.6	90.3	88.8
65°	91.1	88.8	88.0	86.5	85.7	85.0	83.4	84.2	81.1	81.9	81.1
67.5°	81.1	79.6	78.8	77.3	77.3	76.5	74.3	75.8	72.7	73.5	72.7
70°	72.0	70.4	70.4	68.1	68.1	67.4	65.8	66.6	64.3	64.3	64.3
72.5°	63.5	61.2	60.5	59.7	59.7	58.9	57.4	58.2	55.9	55.9	55.1
75°	54.3	52.8	52.8	51.3	50.5	50.5	49.0	49.0	47.5	47.5	46.7
77.5°	45.2	43.6	43.6	42.1	42.1	42.1	40.6	40.6	39.0	39.0	39.0
80°	36.7	35.2	35.2	33.7	33.7	33.7	32.2	32.2	30.6	30.6	30.6
82.5°	28.3	26.8	26.8	26.0	25.3	25.3	24.5	23.7	23.0	23.0	23.0
85°	19.9	19.1	19.1	18.4	17.6	17.6	16.1	16.1	15.3	15.3	15.3
87.5°	11.5	11.5	10.7	10.7	10.7	10.0	9.2	8.4	7.7	7.7	8.4
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°	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1	316.1
2.5°	310.8	310.0	310.8	313.1	310.8	304.7	310.8	307.0	303.9	305.4	302.4
5°	303.1	302.4	301.6	303.1	299.3	293.2	299.3	295.5	290.9	290.9	289.4
7.5°	294.7	293.2	291.6	292.4	288.6	281.7	286.3	283.2	279.4	280.2	276.3
10°	285.5	282.5	280.9	280.9	276.3	270.2	274.0	271.0	266.4	267.2	263.3
12.5°	274.8	271.7	270.2	269.5	264.9	258.7	262.6	258.7	254.9	254.9	251.1
15°	261.0	260.3	258.7	258.0	253.4	246.5	251.1	246.5	242.7	243.4	239.6
17.5°	252.6	248.8	246.5	245.7	241.9	235.8	239.6	235.8	231.9	231.9	228.1
20°	241.9	238.1	235.0	235.0	230.4	225.1	228.9	225.8	220.5	222.0	218.2
22.5°	230.4	226.6	225.1	224.3	219.7	215.9	218.9	215.9	211.3	211.3	208.2
25°	219.7	216.6	215.1	214.3	209.7	205.9	209.0	206.7	202.1	202.9	199.0
27.5°	209.7	205.9	204.4	204.4	200.6	196.7	199.8	196.7	192.9	193.7	189.8
30°	199.0	196.0	195.2	195.2	190.6	187.5	189.8	187.5	183.7	184.5	181.4
32.5°	189.8	187.5	186.0	186.0	182.2	179.9	182.2	179.9	176.8	176.8	173.8
35°	180.7	177.6	176.8	179.9	173.8	171.5	173.0	171.5	168.4	168.4	165.3
37.5°	171.5	169.2	168.4	169.2	164.6	162.3	165.3	163.8	160.8	160.8	156.2
40°	162.3	160.8	160.0	160.0	156.9	154.6	157.7	155.4	153.1	153.1	150.0
42.5°	153.9	151.6	151.6	152.3	148.5	147.0	149.3	147.7	144.7	144.7	142.4
45°	146.2	143.9	143.1	143.9	144.7	139.3	141.6	140.8	134.7	137.8	135.5
47.5°	137.8	135.5	135.5	135.5	133.2	130.9	133.2	132.4	129.4	130.1	127.8
50°	130.1	127.8	127.1	127.8	124.8	124.0	126.3	124.8	120.2	122.5	120.9
52.5°	120.9	119.4	119.4	120.2	117.9	116.4	118.7	117.1	114.8	114.8	113.3
55°	113.3	111.8	111.8	112.5	110.2	108.7	110.2	109.5	107.2	107.2	105.6
57.5°	104.9	103.3	104.1	104.1	101.8	101.0	102.6	101.0	99.5	99.5	98.0
60°	96.5	94.9	95.7	95.7	94.2	92.6	94.2	93.4	91.1	91.1	90.3
62.5°	88.0	87.3	87.3	87.3	85.7	85.0	85.7	85.0	83.4	83.4	81.9
65°	80.4	78.8	78.8	78.8	77.3	76.5	77.3	76.5	75.8	75.0	74.3
67.5°	72.0	71.2	70.4	70.4	68.9	68.9	68.9	68.1	67.4	66.6	65.8
70°	63.5	62.0	62.0	62.0	61.2	60.5	60.5	59.7	59.7	58.9	58.2
72.5°	55.1	53.6	54.3	53.6	52.8	52.1	52.1	52.1	51.3	50.5	50.5
75°	46.7	45.9	45.9	45.9	44.4	44.4	44.4	43.6	42.9	42.9	42.1
77.5°	38.3	37.5	39.0	37.5	36.7	36.0	36.0	36.0	34.4	34.4	34.4
80°	30.6	29.1	29.9	29.9	28.3	28.3	27.6	27.6	26.8	26.8	26.8
82.5°	22.2	22.2	22.2	21.4	20.7	20.7	20.7	19.9	19.1	19.1	19.1
85°	14.5	14.5	13.8	13.8	13.8	13.0	13.0	12.2	11.5	11.5	11.5
87.5°	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6	5.4
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 - HLM6927 - HL6FL - 70PS

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	316.1	316.1	316.1	316.1
2.5°	301.6	303.9	304.7	303.1
5°	288.6	290.9	290.9	290.1
7.5°	274.8	278.6	277.9	276.3
10°	261.8	265.6	264.9	263.3
12.5°	249.5	252.6	251.8	250.3
15°	237.3	241.1	240.4	238.1
17.5°	226.6	229.6	229.6	227.3
20°	216.6	219.7	218.9	216.6
22.5°	207.4	209.7	209.0	206.7
25°	198.3	205.1	199.8	198.3
27.5°	189.1	192.1	191.4	189.1
30°	180.7	183.0	182.2	179.9
32.5°	173.0	176.1	174.5	173.0
35°	164.6	167.6	166.1	164.6
37.5°	157.7	160.0	158.5	156.9
40°	149.3	152.3	151.6	149.3
42.5°	142.4	144.7	143.9	141.6
45°	135.5	137.8	137.0	134.0
47.5°	127.8	130.1	128.6	127.1
50°	120.2	122.5	121.7	120.2
52.5°	113.3	115.6	114.1	112.5
55°	105.6	107.9	106.4	104.9
57.5°	98.0	100.3	98.7	97.2
60°	89.6	91.9	90.3	89.6
62.5°	81.9	84.2	82.7	81.9
65°	74.3	75.8	75.0	74.3
67.5°	66.6	68.1	66.6	66.6
70°	58.2	59.7	58.9	58.2
72.5°	49.8	51.3	51.3	50.5
75°	42.1	42.9	42.9	42.1
77.5°	34.4	35.2	34.4	34.4
80°	26.8	26.8	26.8	26.8
82.5°	19.1	19.9	19.1	19.1
85°	11.5	12.2	11.5	11.5
87.5°	4.6	5.4	4.6	5.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)